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# Further Studies on the Systematics of Ctenizid Trapdoor Spiders: a Review of the Australian Genera (Araneae : Mygalomorphae : Ctenizidae)

*Barbara York Main*

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# Further Studies on the Systematics of Ctenizid Trapdoor Spiders: a Review of the Australian Genera (Araneae : Mygalomorphae : Ctenizidae)

*Barbara York Main*

Zoology Department, University of Western Australia, Nedlands, W.A. 6009.

*Abstract*

The family Ctenizidae is redefined and the Australian genera, for the present, are allocated to the subfamilies Ctenizinae and Homogoninae and to the tribes Pachylomerini, Aganippini, Cataxini, Arbanitini and Homogonini. Of the twenty-one nominal genera, ten are accepted here as valid genera within the Ctenizidae and one new genus, *Neohomogona*, is described. All accepted genera and the type-species of newly synonymized genera are diagnosed. The new species *Neohomogona bolganupensis*, *N. stirlingi* and *Cataxia dietrichae* are described. The validity of *Arbanitis* Koch is justified in order to maintain nomenclatural stability. The genera *Evoplos* Rainbow, *Albaniana* Rainbow & Pulleine, *Bancroftiana* Rainbow & Pulleine and *Armadalia* Rainbow & Pulleine are newly synonymized with *Arbanitis*, and *Cantuaria* Hogg is again sunk in *Arbanitis*. *Hermeas* Karsch, *Dyarcyops* Hogg and *Megalosara* Rainbow are newly synonymized with *Misgolas* Karsch, and *Cantuarides* Strand is newly synonymized with *Blakistonia* Hogg. All nominal Australian species attributed to the Ctenizidae are allocated to genera as here diagnosed or removed to other families; several species originally placed in other families are transferred to the Ctenizidae. Of the eleven genera occurring in Australia, eight are endemic (*Aganippe* Cambridge, *Idiosoma* Ausserer, *Eucyrtops* Pocock, *Anidiops* Pocock, *Cataxia* Rainbow, *Blakistonia* Hogg, *Homogona* Rainbow, and *Neohomogona*, gen. nov.), two share a geographic range with New Zealand (*Arbanitis* and *Misgolas*), and one, *Conothele* Thorell, ranges through south-east Asia and New Guinea into Australia. The distribution of genera within Australia and their natural history are briefly discussed.

## Introduction

This paper is the eighth in a series dealing with the systematics of Australian Ctenizidae. Earlier publications by the author in which new ctenizid species are described or genera reviewed are Main (1952, 1957*a*, 1957*b*, 1969, 1977, 1983) and Main and Mascord (1974). The Ctenizidae comprise the 'typical' trapdoor spiders, i.e. those species that usually close the burrow with a hinged door. The family is well represented in Australia and spiders are abundant, particularly in relatively stable habitats in temperate to tropical regions. The family manifests its greatest diversity as measured by both taxonomic and ecological diversity in south-eastern Queensland and south-western Australia (Main 1981). Habitats occupied range from seasonally snow-bound, montane habitats to semi-arid and seashore sites. Several genera show marked adaptations to semi-arid habitats but spiders are rare in severely arid regions where, however, relict populations persist in pockets or refuges of more favourable habitats (Main 1982*b*).

### *Characteristics of the Ctenizidae*

The criteria on which the Ctenizidae have traditionally been defined are: (*a*) an apical rake of teeth (rastellum) on the chelicerae, (*b*) two pairs of spinnerets of which the terminal segment of the posterior lateral pair is short and rounded, (*c*) four pairs of cardiac ostia,

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(*d*) one or two rows of teeth on the paired tarsal claws, (*e*) tarsal claw tufts absent, (*f*) a burrowing habit, with resultant tube or burrow usually closed by a hinged door (most species terrestrial, a few arboreal).

Certain Dipluridae (Diplurinae) share one or all of these features except the terminally rounded spinnerets. Thus, there has always been some confusion between the two families, viz. between the Nemesini (Ctenizidae) and the Diplurinae, as both groups possess bipectinate tarsal claws. However, if the shape of the spinnerets is weighted against other characters then it is apparent that certain non-Australian genera, e.g. some African and Malagasy genera, at present included in the Ctenizidae would be more appropriately placed in the Diplurinae. There are no Nemesini in Australia.

At least two Australian ctenizid genera — a new genus described here and *Homogona* [removed from the Migidae to the Ctenizidae by Main (1983)] — do not have a rastellum. Main (1983) has already modified the definition of the Ctenizidae to include forms without a rastellum. Furthermore, the new genus described here shows a reduction and loss of the posterior median spinnerets. Thus, a broadened definition of the Ctenizidae as conceived here is as given above but with the following modifications: with or without a rastellum and with one or two pairs of spinnerets.

Several subfamilies have previously been included in the Ctenizidae but Bonnet (1955, 1956, 1961) and Roewer (1942) considered only the subfamilies Brachybothriinae Simon and Ctenizinae Simon. However, the name Antrodaeitinae has more general acceptance over Brachybothriinae and is now given family status. Coyle (1971) discusses the nomenclature of this family. Caporiacco (1955) designated the Pseudonemesiinae, since transferred to the Microstigmatidae (Raven and Platnick 1981). Thus, until Main (1983) elevated the Homogonini to subfamily status only the single subfamily Ctenizinae stood. It is probable that with revision of the included genera the Ctenizinae will be further divided into several subfamilies. However, in the present study all the Australian genera except *Homogona* and a new genus are tentatively left in the Ctenizinae.

*Historical Perspective of the Genera*

Australian species nominally attributed to the Ctenizidae have been placed in 21 genera (Table 1). The first nominal Australian mygalomorph species now attributed to the Ctenizidae was *Mygale annulipes* C. L. Koch [= *Arbanitis annulipes* (C. L. Koch)] described in 1842 (C. L. Koch 1842). Cambridge (1870) described the species *Idiops sigillatus*, which Ausserer (1871) made the type-species of *Idiosoma*. Following this, L. Koch (1873) described *Pholeuon* which, being preoccupied, was replaced by *Arbanitis* in 1874 (Koch 1874). Cambridge (1877) described *Aganippe*, Karsch (1878) designated two genera *Misgolas* and *Hermeas*, Thorell (1881) recorded *Conothele* Thorell from Cape York, and Pocock (1897) designated two more genera *Anidiops* and *Eucyrtops*. Thus, by the end of the century eight genera had been recorded from Australia. Hogg (1901) designated *Maoriana* from New Zealand. This name, which was preoccupied, was replaced in the following year by *Cantuaria* (Hogg 1902) but it was not until 1908 that an Australian species was attributed to the genus (Simon 1908). Hogg (1902) also erected two other genera, *Dyarcyops* and *Blakistonia*. Strand (1907) described the genus *Cantuarides*, Simon (1908) designated *Proshermacha* and Rainbow (1914) erected *Megalosara*, *Evoplos*, *Gaius* and *Cataxia*. Finally, Rainbow and Pulleine (1918) erected four more genera: *Albaniana*, *Armadalia*, *Bancroftiana* and *Tambouriniana*. Apart from *Conothele*, *Arbanitis*, *Cantuaria* and *Dyarcyops*, all these genera were endemic. Many additional species have been added to the genera since their inception, principally to *Aganippe*, *Arbanitis*, *Cataxia*, *Dyarcyops* and *Idiosoma* (Kulczynski 1908; Rainbow 1914, 1915, 1920; Rainbow and Pulleine 1918; Pulleine 1919; Hickman 1927, 1928, 1933, 1944; Main 1952, 1957*b*, 1969; Main and Mascord 1974). Nevertheless, the identity of many genera has been doubtful and placement of later-collected specimens difficult.

Until Main's revision of the Aganippini (Main 1957*b*), no comprehensive recent review of any of the genera had been attempted apart from Hickman's key to the species of

*Arbanitis* (Hickman 1933). Main (1957*b*) re-established *Eucyrtops* Pocock, which was formerly synonymized with *Aganippe* by Hogg (1902), synonymized *Gaius* Rainbow with *Anidiops* Pocock and redefined the four genera comprising the tribe — *Aganippe*, *Idiosoma*, *Eucyrtops* and *Anidiops* — and reviewed the species. In 1969, Main reviewed the genus *Cataxia* and described several new species. *Proshermacha* Simon has been removed to the Dipluridae and synonymized with *Chenistonia* Hogg (Main 1982*a*). As stated above, *Homogona* Rainbow has been transferred from the Migidae to the Ctenizidae (Main 1983). Main (1977), in a preliminary revision of the genus *Dyarcyops* Hogg, distinguished between the two genera *Arbanitis* and *Dyarcyops*, which until then had frequently been confused. *Dyarcyops* is here synonymized with *Misgolas* Karsch (see Table 1 and later).

**Table 1. Nominal genera of Australian Ctenizidae and their revised status**

Type-species of *Idiosoma* was nominally attributed to *Idiops* Perty, which does not occur in Australia. *Korua* Todd, a New Zealand nominal genus to which no Australian species have been attributed, is here synonymized with *Arbanitis*

**Originally attributed to Ctenizidae**

1. *Aganippe* Cambridge, 1877
2. *Albaniana* Rainbow & Pulleine, 1918 = *Arbanitis* Koch, nov. syn.
3. *Anidiops* Pocock, 1897
4. *Arbanitis* Koch, 1874 (replacement for *Pholeuon* Koch, 1873)
5. *Armadalia* Rainbow & Pulleine, 1918 = *Arbanitis* Koch, nov. syn.
6. *Bancroftiana* Rainbow & Pulleine, 1918 = *Arbanitis* Koch, nov. syn.
7. *Blakistonia* Hogg, 1902
8. *Cantuaria* Hogg, 1902 (replacement for *Maoriana* Hogg, 1901) = *Arbanitis* Koch [*Cantuaria* synonymized with *Arbanitis* by Todd (1945), reinstated by Forster (1968), here regarded as synonymous with *Arbanitis*]
9. *Cantuarides* Strand, 1907 = *Blakistonia* Hogg, nov. syn. (synonymized with *Arbanitis* by Main 1981)
10. *Cataxia* Rainbow, 1914
11. *Conothele* Thorell, 1878
12. *Dyarcyops* Hogg, 1902 = *Misgolas* Karsch, nov. syn.
13. *Eucyrtops* Pocock, 1897
14. *Evoplos* Rainbow, 1914 = *Arbanitis*, nov. syn.
15. *Gaius* Rainbow, 1914 = *Anidiops* Pocock
16. *Hermeas* Karsch, 1878 = *Misgolas* Karsch, nov. syn.
17. *Idiosoma* Ausserer, 1871
18. *Megalosara* Rainbow, 1914 = *Misgolas* Karsch, nov. syn.
19. *Misgolas* Karsch, 1878
20. *Tambouriniana* Rainbow & Pulleine, 1918 = *Arbanitis* Koch
21. *Proshermacha* Simon, 1908 = *Chenistonia* Hogg, 1901 [in the Dipluridae (Main 1982*a*)]

**Transferred from Migidae** (Main 1983)

22. *Homogona* Rainbow, 1914.

**New genus**

23. *Neohomogona*, gen. nov.

Factors contributing to the early difficulties of identification of genera were the inaccessibility of many types, and loss and misplacement of others. Many of the early types were deposited in European museums and the British Museum (Natural History). Until recently, loans were not permitted from the latter institution. Several types deposited in European museums, e.g. Stuttgart and Hamburg, were destroyed during the 1939–45 war. Most of Rainbow's and Rainbow and Pulleine's types were deposited in the Australian Museum, which also would not lend material until recent years. In 1954, I was able to visit the Australian Museum and in 1958, the British Museum (Natural History) and the Hope Museum (Oxford). At the same time, I was able to examine all extant Australian mygalomorph types housed in European museums. However, none of Rainbow's and Rainbow and Pulleine's generic types of Ctenizidae could be located during my early visits (in 1954 and 1965) to the Australian Museum. Consequently, and also because of the inadequacy of some descriptions and figures, identity of several genera was fraught with difficulty and doubt. Fortunately all these types have subsequently been located in the South Australian Museum from where they have been returned to the Australian Museum. Recent

examination of them has greatly facilitated the present study. The purpose of this study is to clarify the status of and diagnose Australian genera and list the revised generic positions of nominal species (see Tables 1 and 2 and Appendices 1 and 2). This work, although reviewing the nominal genera (and their species), does not present complete generic revisions. Such revisions are in preparation and will be presented in a series of papers that will include descriptions of new species. In summary, of the twenty-one nominal genera attributed to the Ctenizidae, one has been transferred to the Dipluridae (Main 1982*a*) and eleven have been synonymized with other genera (Main 1957*b* and here) (Tables 1 and 2). In addition, one genus has been transferred to the Ctenizidae from the Migidae (Main 1983), and one genus is newly described. Thus, eleven genera are considered in the following account (Tables 2 and 3).

**Table 2. Currently accepted ctenizid genera and their synonyms**

This table includes one new genus. See also Table 1

1. *Aganippe* Cambridge
2. *Anidiops* Pocock
   Synonym: *Gaius* Rainbow
3. *Arbanitis* Koch
   Synonyms: *Albaniana* Rainbow & Pulleine, *Armadalia* Rainbow & Pulleine, *Bancroftiana* Rainbow & Pulleine, *Cantuaria* Hogg, *Evoplos* Rainbow, *Korua* Todd, *Tambouriniana* Rainbow & Pulleine
4. *Blakistonia* Hogg
   Synonym: *Cantuarides* Karsch
5. *Cataxia* Rainbow
6. *Conothele* Thorell
7. *Eucyrtops* Pocock
8. *Homogona* Rainbow
9. *Idiosoma* Ausserer
10. *Misgolas* Karsch
    Synonyms: *Dyarcyops* Hogg, *Hermeas* Karsch, *Megalosara* Rainbow
11. *Neohomogona* Main, nov. gen.

**Table 3. Taxonomic arrangement of ctenizid genera into subfamilies and tribes**

CTENIZINAE

PACHYLOMERINI
- *Conothele*

AGANIPPINI
- *Aganippe*
- *Idiosoma*
- *Eucyrtops*
- *Anidiops*

CATAXINI
- *Cataxia*

ARBANITINI
- *Arbanitis*
- *Misgolas*
- *Blakistonia*

HOMOGONINAE
- *Homogona*
- *Neohomogona*

## Materials and Methods

Every effort has been made to collect topotypic material of all species of Ctenizidae, in addition to examining types. Thus, where possible new material has been dissected, e.g. the internal genitalia of females, in preference to dissecting types. However, in some instances it has been necessary to dissect types. Although most types are in reasonably good condition, some are dried (pinned) specimens and a few others have deteriorated. Conventional morphological criteria have been considered in assessing the status of genera. In addition, biological criteria such as burrow structures and behaviour have been taken into account.

In the following taxonomic accounts, complete bibliographies are not given. Generally, the references cited are the original reference, the catalogues of Bonnet and Roewer (where adequate earlier references are cited) and later references. Occasionally, earlier references that have particular significance are cited. Generally, only comprehensive natural history references are cited. Material examined, apart from types and actual specimens described, is not listed here, except for the new species described. Such material, with localities and other data, will be listed in generic revisions currently in preparation.

*Abbreviations and Formulae*

*Morphology*

| | | | |
|---|---|---|---|
| AME | anterior median eyes | p | prolateral |
| ALE | anterior lateral eyes | r | retrolateral |
| PME | posterior median eyes | v | ventral |
| PLE | posterior lateral eyes | d | dorsal |
| | | F | femur |
| | | P | patella |
| | | Ti | tibia |
| | | M | metatarsus |
| | | Ta | tarsus |

Units of measurement cited in descriptions are millimetres.

In species descriptions, the leg formula is obtained by dividing the leg length by the carapace length; the tibial index by the following formula:

$$100\ W/L,$$

where $W$ is width of the patella and $L$ is length of the tibia plus patella (Petrunkevitch 1942).

*Localities*

State names are abbreviated to capital letters as NSW, New South Wales; NT, Northern Territory; Q, Queensland; SA, South Australia; T, Tasmania; V, Victoria; WA, Western Australia.

*Institutions*

| | |
|---|---|
| AM | Australian Museum, Sydney |
| BM(NH) | British Museum (Natural History), London |
| IZW | Instytut Zoologii PAN, Warsaw |
| MSNG | Museo Civico di Storia Naturale di Genova |
| OUM | Hope Museum, Oxford University |
| OTNZ | Otago Museum, New Zealand |
| QM | Queensland Museum, Brisbane |
| QVM | Queen Victoria Museum, Launceston |
| SAM | South Australian Museum, Adelaide |
| SMNS | Staatliches Museum fur Naturkunde, Stuttgart |
| WAM | Western Australian Museum, Perth |
| ZMB | Universitat Humboldt, Berlin |
| ZMH | Zoologisches Museum fur Hamburg |

## Key to the Australian Genera of Ctenizidae

(see Table 4)

1. Tibia III with glabrous, saddle-like dorsal depression (Fig. 7). Fovea deep and U-shaped ... ..... PACHYLOMERINI *Conothele*

   No such dorsal depression on tibia III. Fovea rarely U-shaped ..... 2

2(1). Eyes in broad group of 2,2,4. Labium broad and anteriorly indented (Figs 13,14). Door pulled down by 4th legs ..... AGANIPPINI 3

   Eyes in 3 rows of 2,2,4 or 2 compact rows. Labium relatively long (not as above) (Figs 31,47,124,147) ..... 6

3(2). Abdomen with dorsal abdominal sigilla. Maxillae with spinules (as well as cuspules on antero-ental angle). Males *usually* with 2 processes on palp tibia; lower, burr-like heavily spined process and upper nodular or finger-like process ..... 4

   No abdominal sigilla. Maxillary spinules present or absent. Male palp with tibial apophysis(es) not as above ..... 5

4(3). Abdomen posteriorly truncate (especially in females) and with distinct longitudinal corrugations, which usually bear stout spines on ridges in females; at least 2 pairs of large, seal-like sigilla on truncated section of abdomen. Anterior lateral eyes enlarged, contiguous on margin of carapace. Male with 'tooth-like' spines on upper digital process of palp tibia. Burrow with cup-like vertical entrance chamber; rim always with attached twig-lines and relatively thin, flap-like door made of silk and litter debris (not soil). South-west WA only ..... *Idiosoma*

   Abdomen rarely posteriorly truncate, 2 or 4 pairs of dorsal sigilla (usually only 2 = anterior pairs), rarely with longitudinal corrugations and if present then lack stout spines on ridges. Eyes relatively small and wide spaced or occasionally enlarged as above. Burrow with or

without twig-lines, door flap-like or with vertical twigs or thick (soil) and plug-like. Male usually lacks spines on upper process of palp tibia (except in some forms with enlarged contiguous eyes and 4 pairs of abdominal sigilla). Never with *all 'Idiosoma' characteristics in combination* ..... *Aganippe*

5(3). *Females*. Maxillae with spinules, occasionally also present on sternum. Carapace frequently with roughly parallel sides, and long oval abdomen. ♂♀ Eyes widespread or enlarged with ALE contiguous. *Males*. *A. villosus* with palpal tibia as in Fig. 28; other species (*A. manstridgei* and undescribed) with *Aganippe*-like apophyses (but lack abdominal sigilla). Tibia 1 with bifid, spined apophysis. *Burrow* with 'sock', i.e. detachable section of silk around which is packed refuse and which, when pulled down, forms false bottom in nest (Figs 209–210). Burrow frequently with twig-lines. Western part of continent only, i.e. west of Flinders Ranges ..... *Anidiops*

*Females*. Maxillae usually without spinules. Carapace with evenly rounded sides, abdomen oval, not as above. ♂♀ Eyes *rarely* enlarged with contiguous ALE. *Males* with or without apophysis on tibia I. Palp tibia without spines or apophyses, or with several to many heavy spines on median spined apophysis (see Fig. 29). *Burrow* never with twig-lines. South-western part of continent, i.e. from west coast to Eucla, possibly in south-west Q (?) ... ..... *Eucyrtops*

6(2). Rastellum absent. No scopula on legs in females. If door present, thin and flimsy ..... ..... HOMOGONINAE 7

Rastellum present. Scopula present or absent on legs of females. If door present, either thin and flimsy or strong and rigid; pulled down by fangs .....CATAXINI, ARBANITINI 8

7(6). Labium with cuspules, 2 pairs of well-developed spinnerets, anterior legs (in females) with long 'clubbed' hairs. Door present (flap-like) or absent (as in north Q species). North-eastern NSW, Q (and V, undescribed) ..... *Homogona*

Labium without cuspules. Median spinnerets reduced to minute, bristle-bearing lobes (Figs 163,175,181,182) or absent. No 'clubbed' hairs on anterior legs. Burrow without door. Porongorup Range and Stirling Ranges, WA only ..... *Neohomogona*

8(6). *Females*. Without scopula on legs; anterior legs with heavy ventral spines. Rastellum with long, thin teeth. Fovea slightly procurved, relatively shallow. ♂♀ Eyes usually widespread, anterior row strongly procurved. *Males*. At least anterior legs with scopula. Tibia I with bifid, spined apophysis. *Burrow* with door. Q only ..... CATAXINI *Cataxia*

*Females*. Usually with scopula on legs; if absent then: eyes compact, anterior row not strongly procurved and 2 rows close together; sternum broad and with large posterior sigilla well away from margin; carapace with deep procurved fovea. *Males*. At least anterior legs with scopula. Tibia I with or without bifid apophysis. *Burrow* with or without door (generally absent in *Misgolas*) .....ARBANITINI 9

9(8). Eyes in 3 distinct rows of 2,2,4. Labium with long pointed cuspules. Male with bifid apophysis on tibia I. Door always thick, soil. Southern central part of continent, e.g. SA into V and south-western NSW, south-eastern WA ..... *Blakistonia*

Eyes more compact. Labium with or without cuspules (usually absent) .....10

10(9). Anterior and posterior rows of eyes close together forming compact rectangular group; never square. Carapace and legs glabrous, caput high. Posterior sternal sigilla large, well away from margin; sternum broad between 3rd coxae. Labium occasionally with cuspules. Fovea of females deeply procurved (may be recurved in males). Rastellum with stout, thick teeth. Never with dark longitudinal 'decorations' as in *Misgolas* but 1 species (*A. annulipes*) with dark, mottled flecks, 'macula', on legs. Anterior legs of females with many heavy, ventral spines, *usually* with scopula on anterior tarsi and metatarsi (occasionally reduced or absent). ♂♀ 4th legs longer than 1st. Male with or without apophysis on tibia I; palp with or without apophysis. Burrow always with thick, soil door. Widespread in south-western WA, mid-eastern mountainous and coastal Australia and in T (absent from SA?) ... *Arbanitis*

Anterior row of eyes strongly procurved; group long, not compact. Carapace and legs hirsute, caput low. Posterior sternal sigilla small, close to margin; sternum narrow between 3rd coxae. Labium never with cuspules. Fovea (especially of females) shallow, almost straight. Rastellum with few long, spine-like teeth. Legs (especially of females) often with dark-coloured, longitudinal streaks or 'decorations'; anterior legs (I and II) and palps of females with dense scopula and few spines. ♂♀ 1st legs may be longer than 4th. Male usually with bifid apophysis on tibia I. *Burrow* usually without door; if present, made of soil, thin but rigid. Eastern Australia only, from south-eastern Q to T and as far west as Lofty Ranges ..... *Misgolas*

**Table 4. Genera of Australian Ctenizidae**

| Genus | Carapace | Fovea | Eyes | Rastellum ± process; groove with 2/3 rows teeth | Labium | Sternum, narrow/broad posteriorly; posterior sigilla |
|---|---|---|---|---|---|---|
| *Conothele* | Glabrous, caput high in mid-region | U-shaped | Compact, 2 rows, raised | + process; 2 rows | Long, truncate; wedge-shaped cuspules | Broad; maybe diffuse |
| *Aganippe* | Glabrous, caput gently arched | Straight/procurved in ♀, may be distorted in ♂ | 3 rows of 2,2,4; wide spaced or close set | + process; 2 rows | Broad, anterior indentation; no cuspules | Long, relatively narrow; round to oval |
| *Idiosoma* | Glabrous, caput low | Straight/procurved in ♀, may be distorted in ♂ | 3 rows of 2,2,4; enlarged; ALE contiguous | + process; 2 rows | Broad, anterior indentation; no cuspules | Long, relatively narrow; round to oval |
| *Eucyrtops* | Glabrous, caput high rounded | Deeply procurved in ♀, may be distorted in ♂ | 3 rows of 2,2,4; small, wide spaced, rarely enlarged or ALE contiguous | + process; 2 rows | Broad, anterior indentation; no cuspules | Long, relatively narrow; round to oval |
| *Anidiops* | Glabrous, caput gently arched | Deeply procurved in ♀, may be distorted in ♂ | 3 rows of 2,2,4; small or large and close set | + process; 2 rows | Broad, anterior indentation; no cuspules | Long, relatively narrow; round to oval |
| *Arbanitis* | Glabrous, high caput (depression behind eyes) | Deeply procurved in ♀, may be distorted in ♂ | Compact, 2 rows | + process; 2 or 3 complete rows | Long; rarely + cuspules | Broad; large |
| *Misgolas* | Hirsute, low caput | Shallow, slightly procurved | Not compact | − process, long thin teeth; 2 rows, outer row may be incomplete | Long; − cuspules | Narrow; small round |
| *Blakistonia* | Glabrous, low caput | Shallow, procurved | 3 rows of 2,2,4 | + process; 2 rows | Long; long pointed cuspules | Narrow; medium |
| *Cataxia* | Glabrous, low caput | Shallow, procurved | Rarely compact | − process; long thin teeth; 2 or usually 3 rows | Long, truncate; usually + cuspules | Narrow; medium |
| *Homogona* | Glabrous, low caput | Shallow, procurved | Rarely compact | Rastellum absent; 2–3 rows teeth | Long; + cuspules | Narrow; medium |
| *Neohomogona* | Glabrous, low caput | Shallow, procurved | Compact | Rastellum absent; 2 rows | Long; − cuspules | Narrow; medium |

**Table 4** *(cont )*

| Genus | Legs: special features; spination/scopula anterior legs (♀) | Abdomen: dorsal pattern; spinnerets | Internal genitalia ♀ | ♂ Palp tibia | Tibia I ♂ | Burrow | Distribution |
|---|---|---|---|---|---|---|---|
| *Conothele* | Tibia III with dorsal depression; crochet-hooked spines; scopula absent | No pattern; high profile | Fig. 187 | – spines or process | – apophyses | Vertical, silk-lined, door fits cap-like over rim. Rejectamenta not stored | Northern and semi-arid Australia |
| *Aganippe* | Spines few to numerous; scopula dense | None to faint; may have small spines (or large in ♂); dorsal sigilla; rarely corrugated | Broadly based, anteriorly attenuated e.g. bottle-shaped, Figs 188, 189 | 2 processes, upper digital (rarely spined) and lower burr | ± apophysis | Soil or debris door, plug-like or wafer; rim ± twig-lines. Rejectamenta stored in pockets | Southern Australia, generally west of Dividing Ranges, absent SE. V and T |
| *Idiosoma* | Spines few; scopula dense | 2 posterior pairs sigilla large; posteriorly truncate, corrugated | Broadly based, anteriorly attenuated, e.g. bottle-shaped, Fig. 190 | As above, upper process always with spines | + apophysis | Wafer, debris door, rim + twig-lines. Rejectamenta stored as above | SW. WA only |
| *Eucyrtops* | Spines few or numerous; scopula dense | Rarely with faint pattern | Fig. 191 | ± single broad process with spines | ± apophysis | Thin, soil or debris door; – twig-lines. Rejectamenta stored as above | Southern WA only? |
| *Anidiops* | Spines few; scopula dense | Oblong, rarely faint pattern | Figs 192, 193 | + double process (Fig 28) or as in *Aganippe* (?) | ± apophysis | ± twig-lines; rejectamenta stored in 'sock', Figs 209, 210 | Southern Australia, W. of Flinders Ranges |
| *Arbanitis* | Heavy spines; scopula dense or thin, rarely absent | Usually yellow bars | Figs 197–200 | ± spined process | ± apophysis | Thick, soil door | SW. and E. Australia, T; absent SA (?) |
| *Misgolas* | Few spines; thick scopula; may have longitudinal 'decorations' | ± yellow bars | Figs 201, 202 | ± single or double process | Usually + apophysis | Rarely with door | SE. Australia (to N. of Brisbane), W. to Lofty Ranges, T |
| *Blakistonia* | Heavy spines; thick scopula | Non-hirsute; bands of dark spots | Figs 203, 204 | + single, spined process | + apophysis | Thick inset door | Central part of continent, SE. WA |
| *Cataxia* | Heavy spination; scopula absent | Faint bars or spots | Figs 194, 195, 196 | + single process | + apophysis | Thin, wafer (flap) door or thick, inset | Q only |
| *Homogona* | Heavy spination; scopula absent; legs may be 'flecked' | Non-hirsute, faint bars | Fig. 208 | + single, spined process; large apical spines | + apophysis | Thin, infolded (collar-like) door, or door absent | Q, NE. NSW, V |
| *Neohomogona* | Heavy spination; scopula absent; legs may be 'flecked' | Non-hirsute, faint bars; median spinnerets reduced or absent (e.g. single pair) | Figs 205–207 | + single process | ± apophysis | Door absent | SW. WA only (Porongorup and Stirling Ranges) |

## Tribe **PACHYLOMERINI** Simon

Pachylomereae Simon, 1892, p. 85; 1903, pp. 884–7. Type-genus by tautonymy, *Pachylomerus* Ausserer, 1871 (preoccupied), senior synonym of *Ummidea* Thorell, 1875, p. 102. Bonnet, 1958, p. 3288; 1961, p. 14.
Cyclocosmieae Simon, 1903, pp. 884, 885. Roewer, 1942, p. 146. Bonnet 1956, p. 1306; 1961, p. 12.
Pachylomerideae Roewer, 1942, p. 146.
Pachylomerini: Main, 1982*b*.

*Diagnosis*

The only genus occurring in Australia, *Conothele* Thorell, is distinguishable from other ctenizids by the saddle-like dorsal concavity on the third tibia. Diagnostic features uniting all the related genera, e.g. *Cyclocosmia*, *Ummidea* and other North American genera, have not been elucidated by recent workers on these forms, e.g. Gertsch and Platnick (1975), Coyle (1981), and thus a complete diagnosis of the tribe is not attempted here.

*Comments*

*Conothele* Thorell is the only genus of the tribe occurring in Australia. At least two genera, *Ummidea* Thorell and *Cyclocosmia* Ausserer, occur in America and Asia; *Ummidea* also extends around the Mediterranean. *Conothele* is confined to the orient (Burma and Sumatra) and Australasia (New Guinea, various islands to the north and east of New Guinea, and northern and inland Australia). Simon (1892) distinguished *Conothele* from *Pachylomerus* (= *Ummidea*) by the subequal anterior eyes and an apical, transverse row of dorsal spines on the third metatarsus in comparison with the smaller anterior median eyes and the irregular arrangement of dorsal spines on the third metatarsus characteristic of *Ummidea*. However, these characters are not invariable and apart from the more or less allopatric geographic range of the genera, there is little justification for retaining two genera. It is noteworthy that Roewer (1963) described a species that he attributed to *Ummidea*, not *Conothele*, from the Caroline Islands in Micronesia. Nevertheless, his figures and description suggest that it fits *Conothele*, not *Ummidea*. On the other hand, the metatarsal spines on leg III of a syntype of *C. doleschalli* Thorell from Cape York are in a single row. A revision of all species of both genera may indicate that they are congeneric, in which case *Ummidea* would have priority. In the meantime, the Australian species are attributed to *Conothele*, in which genus they were described. Field studies indicate that there are several unnamed species.

### Genus **Conothele** Thorell

(Figs 1–12 and 187)

*Conothele* Thorell, 1878, p. 303. Type-species by original designation: *Cteniza malayana* Doleschall, 1859, p. 5; holotype ♀ from Amboina (whereabouts of type unknown). Simon, 1892, p. 88; 1903, p. 887. Rainbow, 1907, p. 76; 1912, p. 110. Roewer, 1942, p. 146. Bonnet, 1956, p. 1197. Main, 1957*a*, p. 209 (description of 'allotype' of *C. malayana* and natural history). Crome, 1962, p. 450 (nest structure and biology).

*Diagnosis*

Carapace and appendages glabrous, sparsely hairy. Eyes in transverse group of 2 rows; depression behind eyes. Central part of caput convex. Fovea deeply procurved, U-shaped. Chelicerae with teeth on both margins of furrow; rastellum process with stout teeth. Labium truncate, with stout, pointed cuspules; not separated from sternum by marked suture, sternum with faint posterior sigilla only, or absent. Legs spinose; tarsi, metatarsi and tibiae of legs I and II and tarsus and tibia of palp with dense crochet-like (hooked) spines; scopulae absent; at least palp tarsus with some club-shaped bothria. 3rd tibia with dorsal, glabrous, saddle-like depression which distinguishes genus from all other Australian ctenizid genera. 3rd metatarsus dorsally with apical spines and several proximal prolaterodorsal spines.

Abdomen high anteriorly, posteriorly declivous and subtruncate. 2 pairs of spinnerets. Males often strikingly coloured with some orange leg segments (and occasionally abdomen) contrasting with jet-black carapace and other leg segments; tarsi short. Male without apophysis or modifications on 1st tibia; palpal bulb and embolus simple, latter elongate and twisted or needle-like; palp tibia without spines or processes. Internal genitalia of females readily distinguished from other Australian genera (Fig. 187).

*Distribution and Natural History*

Within Australia, *Conothele* is the most widespread genus of Ctenizidae and occurs all over tropical Australia and the semi-arid inland part of the continent. It is excluded generally from the Great Dividing Range, except in northern Q, and does not extend into coastal areas in the south-east or south-west of the continent. Main (1981) considered that the distribution of the genus indicated that it had entered Australia from the north relatively recently.

Most species are terrestrial but at least one (*C. arboricola* Pocock) is arboreal. Terrestrial forms make a vertical burrow (slightly inclined at the entrance) with a tough silk lining. The door of soil and silk fits cap-like over the firm, bevelled rim. Circumstantial evidence — of brood spiderlings producing copious silk when collected (Main 1957*a*), the wide geographic range over inland regions, and the sparse and scattered occurrence of spiders in inland Australia (i.e. they do not aggregate) — suggests that the spiders may be aerially dispersed. It is noteworthy that *Ummidea* has been recorded to disperse aerially (Baerg 1928). Main (1957*a*) recorded observations on the egg cocoons, brood young, burrow structure and feeding biology of *Conothele*. An unusual feature is that the spider flicks food remains away from the opening of the nest instead of storing it in the walls or base of the burrow. Spiders defensively insert fangs and anterior claws into the door and pull it downward. Coyle (1981) demonstrated that the saddle-like depression on the third tibia of *Ummidea* is used to brace the spider against the nest walls. Pocock (1898) figured the nest of the arboreal species *C. arboricola* from the Solomon Islands. Crome (1962) also illustrated and described the nests of *C. arboricola*. Specimens of arboreal forms have been collected from Thursday Island (Main 1957*a*) but have not been recorded from mainland Australia although possibly they occur in the northern rainforests of Q. The nests are about 5–7 cm long, cigar-shaped and with a door at one end; presumably the nests open upwards.

*Australian Species*

Although Rainbow (1907, 1912) recorded *C. malayana* from northern Australia and Main (1957*a*) designated and described a male specimen from the Kimberleys, WA, as an 'allotype', it is now doubtful whether the type-species does extend to Australia. There are several unnamed species, but to date the valid nominal species in Australia are *C. arboricola* Pocock and *C. doleschalli* Thorell.

## Tribe **AGANIPPINI** Pocock

Aganippae Pocock (April) 1903, p. 349. Type-genus by tautonymy, *Aganippe* Cambridge, 1877.
Aganippeae Simon (June) 1903, pp. 884, 901. Type-genus by tautonymy, *Aganippe* Cambridge, 1877. New synonymy.
Aganippeae: Roewer, 1942, p. 172. Bonnet, 1955, p. 181; 1956, p. 1269.
Aganippini: Main, 1957*b*, p. 407; 1962, p. 359.

*Diagnosis*

Medium to large spiders, light to dark brown or black in colour, males often black. Fovea deeply procurved or straight. Eyes always in 3 distinct rows of 2,2,4, may be widely spaced or ALE close together. Sternum raised in anterior area immediately behind labium. Labium short, broad and anteriorly indented, never with cuspules (Figs 13, 14). Anterior legs and palps with dense scopula and lightly or heavily spinose; patella III with cluster of prolateral spines; anterior tarsi with few only, weakly developed baton-shaped bothria.

*Distribution and Natural History*

The Aganippini are widespread throughout semi-arid Australia south of the tropics and west of the Great Dividing Range. The spiders build burrows with hinged trapdoors. Some species of all genera except *Eucyrtops* are 'twig-lining', i.e. they attach fans of twigs to the burrow rim (Main 1957*b*); the habit is obligatory in *Idiosoma*. Males mature and wander from early autumn to mid-winter; young emerge after rain during the winter. Aganippine spiders nearly always use their posterior legs to pull the trapdoor shut when defending the burrow. All species deposit rejectamenta in storage areas in the nest.

*Comments*

This group comprises the four genera *Aganippe* Cambridge, *Idiosoma* Ausserer, *Eucyrtops* Pocock and *Anidiops* Pocock. Main (1957*b*) reviewed the tribe, diagnosed the genera and discussed their biology and distribution. Simon (1892) and Pocock (1895, 1897) placed the type-genus *Aganippe* in the Cyrtaucheneae because of the thick scopula and absence of marginal rows of spines on the anterior legs. Pocock (April 1903) designated the 'section' (= tribe) Aganippae (= Aganippini) in his family Cyrtaucheniidae, to contain the four genera *Aganippe*, *Blakistonia* Hogg, *Anidiops* and *Idiosoma*. Simon (June 1903) also proposed the tribe Aganippeae (= Aganippini) to contain the same four genera within the Ctenizinae (equivalent to Ctenizidae). Bonnet (1955) attributes the tribal name to Simon but this is incorrect since Pocock's use of the name (published several months earlier) has priority.

Although Pocock (1897) had erected the genus *Eucyrtops* for the species *Aganippe latior* Cambridge, Hogg (1902) and Simon (1903) regarded it as a synonym of *Aganippe* as also did Rainbow (1914) and Rainbow and Pulleine (1918).

Rainbow (1914) added the new genus *Gaius* to the tribe and Rainbow and Pulleine (1918) named new species of *Aganippe* and discussed all genera except *Idiosoma*, which presumably they would still have included in the group. Roewer (1942) still included *Blakistonia* and *Gaius*. Main (1957*b*) synonymized *Gaius* with *Anidiops* and removed *Blakistonia* from the tribe. *Blakistonia* has more affinity with the Arbanitini than the Aganippini in spite of the long eye group, with the eyes in three rows, 2,2,4. The shape of the labium appears to be a better character for distinguishing the tribes; it is broad and anteriorly indented in the Aganippini (Figs 13, 14) but relatively long and anteriorly truncate in *Blakistonia* (Figs 147, 150) and all other Australian ctenizids.

*Genera*

*Aganippe* Cambridge, *Idiosoma* Ausserer, *Eucyrtops* Pocock and *Anidiops* Pocock.

## Genus **Aganippe** Cambridge

(Figs 13, 15–18, 24, 25, 188–189)

*Aganippe* Cambridge, 1877, p. 28. Type-species by subsequent designation (Simon, 1892, p. 106): *Aganippe subtristis* Cambridge, 1877; holotype ♀ from Adelaide, SA (BMNH, examined). Roewer, 1942, p. 172. Bonnet, 1955, p. 179. Main, 1957*b*, p. 427; 1964, 1967, 1980, p. 35; 1976 (natural history); 1981 (natural history, distribution).

*Diagnosis*

Light to dark brown spiders, males often black; medium to large spiders. Carapace glabrous, abdomen hirsute or spinose. Abdomen with 2 or 4 pairs of dorsal sigilla, 2nd pair largest; if 4 pairs then abdomen posteriorly truncate; occasionally with shallow corrugations (in which case eyes not enlarged). Eyes in 3 rows of 2,2,4, relatively small and widely spaced, to large with ALE contiguous on carapace margin; if widely spaced, numerous hairs and bristles amongst eyes, if eyes close together few long, anterior bristles only. Maxillae with spinules as well as antero-ental cuspules. Vesicles of female internal genitalia bottle-shaped,

i.e. broadly based and terminally attenuated (Figs 188, 189). Male palp usually with 2 large, retroventral processes, upper digital process (rarely with small tooth-like spines) and lower, burr-like process; upper process occasionally represented by nodule or absent; embolus usually with flange. Tibia I of male with or without apical, spined bifid apophysis; if apophysis absent, then usually with several apical spines. Burrow with or without twig-lines attached to rim, door thin and made with litter or heavy, plug-like and made with soil.

*Distribution and Natural History*

*Aganippe* is one of the most widespread genera in Australia south of the Tropic of Capricorn and extends from the west coast near Roebourne to the western slopes of the Great Dividing Range. It is most abundant in woodland and semi-arid regions, rare in humid forests. There appear to be two main areas of eco-evolutionary radiations — to the west and to the east of the Flinders Ranges. Main (1962) postulated a series of Pleistocene migrations westward from the southern central part of the continent to account for species groups in WA. This theory no longer seems plausible and my original suggestion (Main 1957*b*) of fragmentation of populations in south-western Australia in accordance with modified habitats (e.g. soil and vegetation) and climatic changes is now favoured. Further field work and collections indicate a complex radiation of the genus in southern Australia west of the Flinders Ranges. The genus is now being revised and many new species are to be described (Main, unpublished data).

*Species* (see also Appendices 1 and 2)

*A. subtristis* Cambridge, *A. bancrofti* (Rainbow), nov. comb., *A. berlandi* Rainbow, *A. cupulifex* Main, *A. modesta* Rainbow & Pulleine, *A. occidentalis* Hogg, *A. pelochroa* Rainbow & Pulleine, *A. raphiduca* Rainbow & Pulleine, *A. robusta* Rainbow & Pulleine, *A. simpsoni* Hickman, *A. smeatoni* Hogg.

### *Aganippe subtristis* Cambridge

(Figs 13, 15–18, 24, 25, 188–189)

*Aganippe subtristis* Cambridge, 1877, p. 28. Type-species of *Aganippe* Cambridge, 1877; holotype ♀ from Adelaide, SA (BMNH, examined). Rainbow and Pulleine, 1918, p. 91 [described and figured 'allotype' ♂ (AM, examined)]. Roewer, 1942, p. 173. Bonnet, 1955, p. 180. Main 1957*b*, p. 428 (refigured 'allotype' ♂ of Rainbow and Pulleine, 1918); 1962, pp. 362–3 (evolution and natural history).

*Aganippe pulleinei* Hogg, 1902, p. 128; syntypes ♀, 3 ♂ from Blakiston and syntype ♂ from Hallet's Cove, SA; syntypes ♂, ♀ from Blakiston (BMNH, examined), ♀ designated lectotype, paralectotype ♂; syntype (= paralectotype) ♂ from Hallet's Cove (SAM, examined); syntypes (= paralectotypes) 2 ♂ missing. Roewer, 1942, p. 172. Bonnet, 1955, p. 180. Main, 1957*b*, p. 428 (synonymized with *A. subtristis*).

*Idiommata schomburgki* Karsch, 1878, p. 820; holotype ♂ from Adelaide, SA (ZMB, examined). Roewer, 1942, p. 215. Bonnet, 1957, p. 2288. New synonymy.

*Diagnosis*

Relatively large spiders, females attaining carapace length of at least 9·0 mm but may mature when much smaller. Old females develop hairy carapace. Abdomen of females hirsute, males dorsally spinose. Characteristically with dense group of hairs and bristles amongst widely spaced eyes; ALE, 3 or 4 diameters apart and whole eye-group almost square. Main (1962) used the formula (carapace length divided by space between ALE) to indicate relative enlargement and approximation of eyes (the higher the number, the closer the eyes) with the resultant value of 7·94 for *A. subtristis*. This value is less than in any other species of *Aganippe*. Male with cluster of stout spines on palp tarsus; palp tibia with lower spinose, burr-like process and upper digital process. Tibia I with apical, spined bifid apophysis. Internal genitalia of female as in Figs 188–189.

*Distribution and Natural History*

The species occurs in light to heavy litter in sclerophyll woodland, often in the slopes of creek banks, throughout the Lofty Ranges and hilly Adelaide suburbs, northwards into the southern Flinders Ranges to about Horrocks Pass and Pichi Richi, west and east of the Flinders Ranges in mallee woodland. Its burrow has flimsy door of soil and litter fragments. Main (1957*b*) identified Eyre Peninsula populations as *Aganippe subtristis*. However, these specimens do not have the widely spaced eyes and they are undoubtedly of an undescribed species (to be described elsewhere; Main, unpublished data). Main (1957*b*) also attributed specimens from east of the Flinders Ranges, i.e. NSW and V, as *A. subtristis*. These are now also considered to be of undescribed species.

*Comments*

Cambridge described the species from the female only. Rainbow and Pulleine (1918) described and figured a male from Booboorowie, SA. Main (1957*b*) refigured the palp of this specimen. Although not an 'allotype' in the sense of a paratype, this specimen does have significance as an 'archival' specimen because it is the first male attributed to the species to have been described and figured. It is thus an allotype in the sense of the original use of this term (Muttkowski 1910; Gloyd 1982). Karsch's species *Idiommata schomburgki* (family Barychelidae) is here synonymized with *A. subtristis*. The type (a male), although a dry, pinned specimen, was in reasonably good condition when viewed in 1958. The specimens of *A. pulleinei* figured by Hogg (Hogg 1902, pl. 13, figs 3, 4) have widely spaced eyes. In addition, the male has a group of stout spines on the palp tarsus (Fig. 24) similar to those on Rainbow and Pulleine's allotype of *subtristis* but which were not indicated in Hogg's figure (Hogg, 1902, fig. 24). The status of *A. robusta* Rainbow & Pulleine, which Main (1957*b*) synonymized with *A. subtristis*, is now in doubt — it is here tentatively reinstated as a distinct species.

## Genus **Idiosoma** Ausserer

(Figs 23, 26, 27, 190, 215, 216)

*Idiosoma* Ausserer, 1871, p. 150. Type-species by monotypy: *Idiops sigillatus* Cambridge, 1870; holotype ♂ from Swan River, WA (OUM, examined). Simon, 1892, p. 91 (as synonym of *Acanthodon*). Roewer, 1942, p. 174. Bonnet, 1957, p. 2293. Main, 1952, p. 130; 1957*b*, p. 438; 1976 (natural history); 1981 (natural history, distribution).

*Diagnosis*

Light to dark brown or black, large spiders, carapace glabrous. Abdomen with pronounced longitudinal corrugations usually bearing heavy spines along ridges; 4 pairs of sigilla, 2nd pairs largest; posteriorly truncate, frequently with corrugations running transversely in truncated area. Eyes large with ALE contiguous or almost so on margin of carapace. Maxillae with spinules as well as cuspules. Vesicles of female internal genitalia similar to *Aganippe* but terminally more obtuse. Male palp similar to *Aganippe*, i.e. tibia with upper digital process and lower burr-like process; upper process always with some stout tooth-like spines (Figs 26 and 27). Tibia I always with apical, bifid apophysis. Burrow always with twig-lines on rim.

*Distribution and Natural History*

Spiders always attach a fan of twig-lines to the rim of the burrow. These function as 'extrasensory' lines for detection of prey (Main 1957*b*). The genus is confined to south-west WA where it occurs in the northern sclerophyll forest and eucalypt woodlands, north to about the Murchison River and in a strip of eucalypt–acacia (*Acacia acuminata* Bentham) woodland east of the Darling Ranges. *Idiosoma nigrum* Main is one of the most arid-adapted mygalomorph spiders in Australia (Main 1982*b*). It is also an endangered species because its preferred habitats have been largely cleared for agriculture.

*Species* (see also Appendices 1 and 2)

*I. sigillatum* (Cambridge), *I. nigrum* Main and *I. hirsutum* Main (status of the latter, doubtful).

### *Idiosoma sigillatum* (Cambridge)

(Figs 26, 190, 216)

*Idiops sigillatus* Cambridge, 1870, p. 105. Type-species of *Idiosoma* Ausserer, 1871, p. 150; holotype ♂ from Swan River, WA (OUM, examined).

*Idiosoma sigillatum* (Cambridge): Ausserer, 1871, p. 150. Pocock, 1897, p. 109 [described ♀ (BMNH, examined)]. Roewer, 1942, p. 174. Bonnet, 1957, p. 2294. Main, 1952, p. 131; 1957*b*, p. 438.

*Diagnosis*

Abdominal corrugations with sharply defined ridges and grooves, upper part of ridges dark brown and grooves yellowish (especially in females). Females with small, thorn-like spines scattered over dorsum of abdomen and line of stout, pointed spines along ridges. Corrugations and heavy spines not so pronounced in males. Main (1957*b*) figured the diagnostic features and discussed the natural history and distribution. Internal genitalia as in Fig. 190.

## Genus **Eucyrtops** Pocock

(Figs 19, 29, 191)

*Eucyrtops* Pocock, 1897, p. 113. Type-species by original designation: *Aganippe latior* Cambridge, 1877, p. 29; holotype ♀ from Perth, WA (BMNH, examined). Hogg, 1901, pp. 229, 232; 1902, p. 125 (synonymized with *Aganippe*). Roewer, 1942, p. 172 (as synonym of *Aganippe*). Bonnet, 1955, p. 179 (as synonym of *Aganippe*). Main, 1957*b*, p. 146 (reinstated as valid genus).

*Diagnosis*

Similar to *Aganippe* but lacks dorsal abdominal sigilla; abdomen never spinose in females. Carapace with rounded margins. Eyes small and widespread or moderately widespread, rarely enlarged with ALE contiguous on margin of carapace. Maxillae usually without spinules. Male palp tibia with or without spines or process — if process present never like *Aganippe* and *Idiosoma* structure, i.e. upper digital process and lower burr. Tibia I with or without bifid apophysis. Burrow never with fan of twig-lines.

*Distribution*

The genus occurs in south-western Australia, from west coast (and Abrolhos Islands) to Nullarbor Plain, possibly extending northward into SA and south-western Q. There are many undescribed species in WA and the genus is being revised (Main, unpublished data).

*Species* (see Appendices 1 and 2)

*E. latior* (Cambridge), *E. riparia* Main and *E. eremaea* Main.

### *Eucyrtops latior* (Cambridge)

(Figs 19, 29, 191)

*Aganippe latior* Cambridge, 1877, p. 29. Type-species of *Eucyrtops* Pocock, 1897, p. 113; holotype ♀ from Perth, WA (BMNH, examined). Roewer, 1942, p. 172. Bonnet, 1955, p. 180.

*Eucyrtops latior*: Pocock, 1897, p. 113. Main, 1957*b*, p. 146 (described 'allotype' ♂).

*Diagnosis*

Females dark brown to black, strongly rounded carapace margins; males usually black, with spinose legs. Females with few anterior leg spines. Eyes small and widely spaced, but group not as 'square' as in *Aganippe subtristis*. Generally similar to *Aganippe* but lack dorsal abdominal sigilla. Internal genitalia with broad-stemmed vesicles with terminal 'crowns' as in Fig. 191. Tibia of male palp with strongly pointed median process with stout spines extending apically around cup-like depression. Tibia I of male with spined, bifid apophysis.

*Distribution*

*E. latior* occurs in south-west WA only, in sclerophyll forest.

*Comments*

I had not examined the type before my review of the Aganippini (Main 1957*b*). It is a dry, pinned specimen but identifiable. The eyes are figured here (Fig. 19), see also Cambridge's figure (1877, pl. 6, fig. 4).

## Genus **Anidiops** Pocock

(Figs 14, 20–22, 28, 192, 193, 209, 210, 213, 214)

*Anidiops* Pocock, 1897, p. 114. Type-species by monotypy: *Anidiops manstridgei* Pocock, 1897; holotype ♀ from Lawlers, WA (BMNH, examined, dry, pinned specimen). Roewer, 1942, p. 173. Bonnet, 1955, p. 327. Main, 1957*b*, p. 424.

*Gaius* Rainbow, 1914, p. 195. Type-species by monotypy: *Gaius villosus* Rainbow, 1914; holotype ♀ from Minnivale, WA (AM, examined). Roewer, 1942, p. 173. Bonnet, 1957, p. 1927. Main, 1957*b*, p. 424 (synonymized with *Anidiops*).

*Diagnosis*

Large spiders, brown to very dark brown, abdomen hirsute, usually with no pattern, no dorsal sigilla, abdomen often elongate with parallel sides. Carapace not as rounded as in *Eucyrtops*. Eyes either small and widely spaced or very large and contiguous on carapace margin (as in *Anidiops manstridgei*). Maxillae with spinules as well as antero-ental cuspules. Vesicles of female internal genitalia with broad stems and terminal crowns; not like *Aganippe* and *Idiosoma*. Males with bifid apophysis on tibia I in named species. Palp with upper digital process and lower burr-like process (as in *Aganippe*), viz. *A. manstridgei*, or with elaborate median process separated by cup-like depression from upper hook-like process, viz. *A. villosus* (Fig. 28). Latter structure similar to some *Misgolas* palps. Burrow always with loosely attached 'sock', i.e. lower section of silk lining has collar-like 'top' able to be retracted by spider, thus providing false bottom to nest. This is an antipredatory device, a storage pocket for rejectamenta and it also prevents flooding of the lower burrow.

*Distribution and Natural History*

The genus extends throughout the semi-arid area of south-west WA, south of about Shark Bay, eastward into SA to north of Port Augusta. Main discussed some aspects of the burrowing behaviour (Main 1979) and demography of a field population (Main 1978) of *Anidiops villosus*. Although there are only two named species, there are other undescribed species in the Eyre Peninsula and WA (Main, unpublished data), one of which lacks a tibial apophysis.

*Species*

*A. manstridgei* Pocock and *A. villosus* (Rainbow).

### *Anidiops manstridgei* Pocock

(Figs 20, 21, 192)

*Anidiops manstridgei* Pocock, 1897, p. 114. Type-species of *Anidiops* Pocock, 1897; holotype ♀ from Lawlers, WA (BMNH, examined). Rainbow and Pulleine, 1918, p. 101 (figured and described 'allotype' ♂, AM, examined). Roewer, 1942, p. 173. Bonnet, 1955, p. 327. Main 1957*b*, p. 426 (refigured ♂ of Rainbow and Pulleine).

?*Aganippe whitei* Rainbow 1915, p. 774 (synonymized by Main 1957*b*).

*Gaius hirsutus* Rainbow and Pulleine, 1918, p. 102 (synonymized by Main 1957*b*).

*Diagnosis*

Enlarged eyes, often with ALE contiguous; anterior edges of PLE in advance of mid-points of AME. Spinules on sternum, labium, maxillae and occasionally also on leg coxae. Female internal genitalia as in Fig. 192. Male palp with *Aganippe–Idiosoma* structure, i.e. upper digital process and lower burr (see Rainbow and Pulleine 1918, fig. 54; Main 1957*b*, fig. 5*A*).

*Distribution and Natural History*

The species is found from eastern goldfields in WA, i.e. about Lawlers and Leonora, south-eastward to Port Augusta. The spiders are frequently twig-lining.

*Comments*

It is doubtful whether the male from Mallala (allotype of Rainbow and Pulleine) is the male of *A. manstridgei*. However, until a male is collected from the type-locality, the identity of the Mallala specimen cannot be resolved, nor can it be certain that the male characters of the palp are as described and figured for the species.

### *Anidiops villosus* (Rainbow)

(Figs 14, 22, 28, 193, 209, 210, 213, 214)

*Gaius villosus* Rainbow, 1914, p. 195. Type-species of *Gaius* Rainbow, 1914; holotype ♀ from Minnivale, WA (AM, examined). Roewer, 1942, p. 173. Bonnet, 1957, p. 1927.

*Anidiops villosus*: Main, 1957*b*, p. 426; 1978, p. 161 (natural history); 1979, p. 115 (burrowing behaviour).

*Diagnosis*

Very large spiders, largest ctenizid in Australia, adult females attaining carapace length of at least 16 mm and males at least 14 mm. Females dark brown, males black. Eyes relatively widely spaced. Internal genitalia as in Fig. 193; male palp tibia with large, spined hook-like upper process and lower, spined protuberance.

*Distribution and Natural History*

The spiders occur in the semi-arid region of south-western WA only, in mulga and acacia groves of sclerophyll woodland, and are usually twig-lining.

## Tribe **CATAXINI** Rainbow

Cataxeae Rainbow, 1914, p. 222. Type-genus by original designation, *Cataxia* Rainbow, 1914. Rainbow and Pulleine, 1918, p. 128. Roewer, 1942, p. 162. Bonnet, 1956, pp. 975, 1269.

*Diagnosis*

Large spiders with non-hirsute, glabrous carapace. Carapace relatively low, caput not much elevated. Fovea shallow, almost straight or moderately procurved (not U-shaped).

Eyes in broad group, ALE and PLE usually widely spaced, never contiguous. Chelicerae heavy, with rastellum of long pointed spines but no process, teeth on both margins of furrow and usually intermediate row. Labium long, anteriorly truncate, with or without pointed cuspules. Legs with heavy ventral spines and without scopula in female. Male with bifid, apical apophysis on tibia I. Burrow with door. Distributed in north-eastern Australia (i.e. Q only).

*Comments*

Rainbow and Pulleine (1918) included their genus *Armadalia* with *Cataxia* in the Cataxeae (= Cataxini). *Armadalia* is here synonymized with *Arbanitis* but *Armadalia pallida* is transferred to *Cataxia*. Thus, there remains only the genus *Cataxia* in the tribe.

## Genus **Cataxia** Rainbow

(Figs 30–44, 194–196)

*Cataxia* Rainbow, 1914, p. 222. Type-species by monotypy: *Cataxia maculata* Rainbow, 1914; 3 syntypes (immature) from Upper Burnett River, Q (AM, examined). Roewer, 1942, p. 162. Bonnet, 1956, p. 975. Main, 1969, p. 193.

*Diagnosis*

Large spiders, in life reddish brown to black (males black), or tan, abdomen may be faintly mauvish or tan-brown; long, usually oval carapace truncate anteriorly and posteriorly; caput relatively low. Shallow fovea, slightly procurved or straight, posterior longitudinal sulcus sometimes present. Eye-group raised but not tuberculate, usually widely spaced eyes, anterior row may be strongly procurved. Chelicerae with comb-like rastellum of long, tapering teeth; complete teeth rows on pro- and retromargin of furrow and with or without irregular intermediate row. Labium long, truncate, with or without anterior pointed cuspules. Maxillae with antero-ental cuspules and antero-ectal process. Posterior sternal sigillae oval or round, away from margin; sternum not very broad between 3rd coxae. Legs relatively long with thick, ventral spines arranged biserially on palp tarsus, and tarsi and metatarsi I and II; scopula absent in female, present on legs I and II in male. Anterior legs often with long, fine 'clubbed' hairs. Palp tarsi and at least tarsi I with several to many baton-like, proximal bothria. Patella III with few prolateral spines. Paired tarsal claws of female with 1 large tooth (and sometimes small tooth beneath this); male with 1–4 teeth, basal tooth often bifid. 2 pairs of spinnerets. Male with median, retroventral spined process on palp tibia; apical bifid apophysis on tibia I. Female internal genitalia pair of thick, trunk-like lobes, distally only slightly dilated, surface granuliferous (Figs 194–196).

*Distribution and Natural History*

This genus is found only in Q (see Main 1969) from about Yarraman in the south-east, inland to Eidsvold and thence in various localities northward in wet situations ranging from 'dry' vine scrub and very wet rainforest (as at Eungella and Babinda), to semi-arid, sclerophyll woodland (Main 1981). Main (1981) also discussed the habitat and distribution of *Armadalia* (in part, here regarded as *Cataxia*). The burrow is closed by a thin, flap-like door, which may be on a tubular eminence above the ground (see Main, 1969, figs 30, 31), or a thick, plug-like soil door.

*Comments*

Main (1969) reviewed the genus, redescribed and illustrated *C. maculata* including the male, described three additional species and discussed the distribution and biology. Main (1981) discussed the genus further in an overview of distribution patterns and habitat preferences of Australian Ctenizidae.

There are two species groups. One includes dark-coloured spiders, characteristic of rain-forest or dry vine forest habitats. These build soft, flap-like doors. All the previously named species belong to this group, i.e. the '*maculata*' group. A second group comprises light-tan or brown spiders that inhabit sclerophyll woodlands and that build thick, soil, plug-like doors. Species of the two groups occur sympatrically but in different habitats. *C. pallida* (Rainbow & Pulleine) and *C. dietrichae*, sp. nov. belong to the second, '*pallida*' group.

Because of possible confusion between the '*pallida*' group and *Arbanitis longipes* (Koch), the type-species of *Arbanitis*, the two species *C. pallida* and *C. dietrichae*, sp. nov. are described here. Other unnamed species are to be described later (Main, unpublished data). See also comments under *Arbanitis*.

*Species* (see Appendices 1 and 2)

'*Maculata*' group — *C. maculata* Rainbow, *C. spinipectoris* Main, *C. babindaensis* Main, *C. eungellaensis* Main; '*pallida*' group — *C. pallida* (Rainbow & Pulleine), *C. dietrichae*, sp. nov.

### ***Cataxia maculata*** Rainbow

(Fig. 194)

*Cataxia maculata* Rainbow, 1914, p. 222. Type-species of *Cataxia* Rainbow, 1914; 3 syntypes (immature) from Upper Burnett River, Q (AM, examined). Roewer, 1942, p. 162. Bonnet, 1956, p. 975. Main, 1969, p. 193 (♂ described).

*Cataxia tetrica* Rainbow and Pulleine, 1918, p. 133; holotype ♀ from Eidsvold, Q (AM, examined). Roewer, 1942, p. 162. Bonnet, 1956, p. 975. Main, 1969, p. 193 (synonymized with *C. maculata*).

*Arbanitis inornatus* Rainbow and Pulleine, 1918, p. 119; syntypes, ♀ and immature ♂ from Eidsvold, Q (AM, examined). Roewer, 1942, p. 174. Bonnet, 1956, p. 635. Main, 1969, p. 193 (synonymized with *C. maculata*).

*Diagnosis*

Large, reddish black spiders, abdomen with mauvish bloom and pale mottling. Slightly procurved fovea. Eye-group with strongly procurved anterior row, length slightly less than ½ width. Labium anteriorly truncate, dense pointed cuspules. Sternum sometimes with few scattered spinules anteriorly. Anterior legs with numerous long 'clubbed' hairs. 3 complete rows of cheliceral teeth. Male with stout spines on palp tarsus. Female internal genitalia as in Fig. 194.

*Comments*

Rainbow stated that the type was a male although his description was clearly of a female or immature specimen. Main (1969) stated the type (at that time missing) to be a female. The types have subsequently been located and are in poor condition but identifiable. Main (1969) diagnosed the species, described a recently collected female from Eidsvold, and described and figured the male for the first time.

### ***Cataxia pallida*** (Rainbow & Pulleine), comb. nov.

(Figs 30–34; Table 5)

*Armadalia pallida* Rainbow and Pulleine, 1918, p. 132; holotype, penultimate ♂ from Eidsvold, Q (AM, examined). Roewer, 1942, p. 162. Bonnet, 1955, p. 742.

*Diagnosis*

Large spiders, pale tan carapace and appendages, abdomen yellowish without pattern and non-hirsute. Widely spaced eyes, anterior row strongly procurved, few bristles between eyes and fovea. 3 complete rows of teeth on cheliceral groove. Labium without cuspules. Small sternal sigilla. 1 or 2 teeth on superior tarsal claws.

*Holotype* (penultimate ♂)

Carapace length 9·5, width 7·4. *Colour.* Pale tan carapace and appendages, abdomen uniformly yellowish. Abdomen sparsely hairy (bristles and hairs rubbed off). *Carapace.* Glabrous with fine, scattered hairs and marginal bristles. Fovea shallow, slightly procurved. About 4 bristles (rubbed off) in line between eyes and fovea. *Eyes.* Widely spaced, anterior row strongly procurved; length 1·3, width 1·9, diameters of eyes: ALE 0·5, AME 0·35, PLE 0·5, PME 0·2; ALE apart 1·1, AME apart 0·2; ALE 0·3 from PLE; line behind ALE passes in front of AME. *Chelicerae.* Rastellum with several rows of long teeth. Right paturon groove with 7 teeth on promargin, 10 on retromargin, about 11 small teeth in intermediate continuous line. *Labium* anteriorly truncate, length 1·5, width 1·7; no cuspules. *Maxillae.* Pronounced antero-ectal angle; about 10 antero-ental cuspules. *Sternum.* Length 5·5, width 4·2, bristles rubbed off. Posterior sigilla small, broad oval. Intercostal (prolateral) spinules on coxae I and II. *Legs.* Heavily spinose but many spines, bristles and trichobothria rubbed off. Legs fragmented. Palp tarsus distinctly swollen. *Tarsal claws.* Palp with 1 tooth. Superior claws: Leg I, p (missing), r 2. Leg II, p 1, r 1. Leg III, p (missing), r 1. Leg IV, p 1, r 2. *Spines.* Palp: tarsus pv 7, rv 5; tibia pv 5, rv 3. Leg I: tarsus pv 7, rv 9; metatarsus pv 10, rv 6; tibia pv 2 apical, rv 4. Leg II: tarsus pv 6, rv 8; metatarsus pv 4, rv 5 (3 lost); tibia pv 1 apical, rv 4. Leg III: tarsus v about 11; metatarsus v 2-2-3 (apical), pd 3, rd 3; tibia pv 1 apical, rv 3 bristles, pd 2, rd 2; patella p 4 (lost). Leg IV: tarsus v about 14; metatarsus pv 7, rv 3, rd 2?; tibia pv 4 (lost), rv 5, rd 3?

**Table 5. Leg measurements of *Cataxia pallida* (Rainbow)**

Measurements are for the holotype (penultimate male) of *Armadalia pallida* Rainbow. Leg formula: 4/2·55, 1/2·22, 2/1·82, 3/1·72. Width of patella I at knee, 1·5; tibial index, 17·04. Width of patella IV at knee, 1·6; tibial index, 16·5

| Limb | | Length (mm) | | | | | |
|---|---|---|---|---|---|---|---|
| | | F | P | Ti | M | Ta | Total |
| Palp | | 5·3 | 3·3 | 3·5 | — | 4·0 | 16·1 |
| Leg | I | 6·5 | 4·3 | 4·5 | 3·5 | 2·3 | 21·1 |
| | II | 5·0 | 3·3 | 3·7 | 3·2 | 2·1 | 17·3 |
| | III | 4·4 | 3·5 | 2·8 | 3·3 | 2·4 | 16·4 |
| | IV | 6·8 | 4·2 | 5·5 | 5·0 | 2·8 | 24·3 |

*Comments*

The holotype is in a very deteriorated condition and fragmented. There are no recent specimens from the type-locality available. The female is unknown. Adult males from the type-locality are unknown; several males from Malangood, Q, in the Australian Museum are possibly this species. However, until males from Eidsvold are collected, the identity of these remains in doubt.

***Cataxia dietrichae***, sp. nov.

(Figs 35–44, 196; Table 6)

*Types*

Holotype ♂, 9·5 km W. Bowen, Q, 9.viii.1965, B. Y. Main, BYM 1965/476, collected as penultimate instar from burrow, moulted to maturity a few days later; allotype ♀, same data as holotype, with egg cocoon of spiderlings in burrow, BYM 1965/480; paratype ♀, same data as holotype and allotype, internal genitalia dissected, BYM 1965/481. All in QM: S 1391, S 1392, S 1393.

*Diagnosis*

Relatively smaller than other species, light tan-brown with greyish brown, hirsute abdomen with faint dorsal bands. Eyes more compact than most species, i.e. anterior row not so strongly procurved and posterior row closer to anterior row. Cheliceral groove with incomplete intermediate row of teeth. No spinules or cuspules on labium. Soil door thick, plug-like.

*Holotype* ♂

Carapace length 6·0, width 4·8. *Colour.* Light tan-brown, abdomen dark greyish brown with faint, transverse, dorsal bands. *Abdomen.* Dorsally hairy with median bristles but no spines. *Carapace.* Marginal spines. Fovea shallow, almost straight, reflexed at edges and with median posterior sulcus. *Eyes* at edge of carapace; eye rows closer together than in most species; length 0·6, width 1·3. *Chelicerae.* About 6 long spines in single line on rastellum. Paturon groove with 6 (7 left) teeth on promargin, 9 (8 left) on retromargin and no intermediate teeth. *Labium.* Without spinules or cuspules; length 0·7. *Maxillae.* With 4 or 5 cuspules, pronounced antero-ectal angle. *Sternum.* Relatively narrow; length 3·8, width 2·6. Sigilla small, round. *Legs.* Not markedly spinose. Palp with apical dorsal group of delicate spines; tibia with spinose upper swelling as well as median spined process. Scopula on tarsi and metatarsi I and II. *Superior tarsal claws.* Leg I, p 4, r 3. Leg II, p 3, r 3. Leg III, p 2, r 1 (2 left). Leg IV, p 3, r 2 (1 divided). *Spines.* Leg I: tarsus pv 2, rv 4; metatarsus pv 1, rv 1 + bristles; tibia v bristles only, bifid apophysis with 2 stout spines on upper process and 3 spines on lower process (Figs 41 and 42). Leg II: tarsus pv 1, rv 5; metatarsus pv 1, rv 3+ bristles. Leg III: tarsus v p r 17+; metatarsus v p r 12+, d 3; tibia v bristles; patella p cluster of short spines. Leg IV: tarsus v p r 10+; metatarsus v p r 12+. All femurs with median dorsal line of tapering spines, about 12 on leg I, fewer on other legs.

**Table 6. Leg measurements of *Cataxia dietrichae*, sp. nov.**

Measurements are for the female allotype with those for the male holotype in parentheses. Leg formula: 4/2·31(3·71), 1/1·97(3·23), 2/1·74(2·86), 3/1·58(2·53). Width of patella I at knee, 1·2(0·8); tibial index, 14·45(11·97). Width of patella IV at knee, 1·4(0·9); tibial index, 15·9(11·53)

| Limb | | Length (mm) | | | | | |
|---|---|---|---|---|---|---|---|
| | | F | P | Ti | M | Ta | Total |
| Palp | | 4·7(2·9) | 3·0(1·5) | 3·3(2·8) | — | 2·9(1·3) | 13·9( 8·5) |
| Leg | I | 5·0(5·3) | 3·9(2·8) | 4·4(3·9) | 2·6(3·8) | 1·5(3·6) | 17·4(19·4) |
| | II | 4·5(4·8) | 3·5(2·5) | 2·8(3·5) | 2·6(3·7) | 1·6(2·7) | 15·0(17·2) |
| | III | 3·9(3·8) | 3·2(2·1) | 2·4(2·8) | 2·8(3·8) | 1·7(2·7) | 14·0(15·2) |
| | IV | 5·5(5·5) | 4·2(2·8) | 4·6(5·0) | 4·1(5·6) | 2·2(3·4) | 20·4(22·3) |

*Allotype* ♀

Carapace length 8·8, width 6·5. *Colour.* Carapace tan-brown, abdomen greyish brown with faint transverse dorsal bands. *Abdomen.* Hirsute, with median dorsal bristles, mottled pattern of bare patches. *Carapace.* Line of about 7 bristles between eyes and fovea. Fovea almost straight, very slightly procurved, with deep, posterior longitudinal sulcus. Clypeus forms 'peak'. *Eyes.* Length 0·9, width 1·7. Diameters of eyes, ALE 0·45, AME 0·25, PLE 0·35, PME 0·25. Line behind ALE passes through AME and line in front of PLE passes behind AME. Eyes more compact than in other species and lateral eyes closer together; ALE 0·2 from PLE. *Chelicerae.* Several rows of long, pointed teeth on rastellum. Paturon groove with 8 teeth on promargin, 12 (13 left) on retromargin and 4 intermediate teeth at edge of retromargin. *Labium.* Length 1·6, width about 1·5. With deep suture-like sigilla separating sternum. No cuspules. *Maxillae.* Pronounced antero-ectal process; about 8 cuspules on antero-ental angle. *Sternum.* Length 4·6, width 3·9. Small round sigilla,

posterior pair well away from margin. Spinules on prolateral face of coxae I and II. *Legs.* Long fine 'clubbed' hairs present. *Trichobothria.* 12–15 on tarsi and metatarsi, 5 or 6 in each row on tibia. *Tarsal claws.* Palp with 1 tooth on each palpal claw. Superior claws, 1 tooth on each claw, some with straight prong underneath tooth. *Spines.* Palp: tarsus pv 6, rv 7; tibia pv 4, rv 6. Leg I: tarsus pv 4, rv 6; metatarsus pv 6, rv 7; tibia v 2 apical, rv 4. Leg II: tarsus pv 2–2, rv 4; metatarsus pv 6, rv 5; tibia pv apical, rv 6. Leg III: tarsus v 10; metatarsus pv 3, rv 3, d 2, pd 1–2; tibia v apical bristles; patella pd 2, rd 1, p 9. Leg IV: tarsus v 13; metatarsus v 14; tibia bristles only.

*Paratype* ♀ (BYM 1965/481; QM S 1393)

Spider with young in nest. Carapace length 7·0; eye-group length 0·8, width 1·5; sternal sigilla oval; right cheliceral groove with 7 teeth on promargin, 17 on retromargin. *Internal genitalia.* Pair of short, broad-based lobes with granuliferous surface (Fig. 196).

*Natural History*

All specimens were collected from burrows in the banks of shallow, gutter-like creeks in open, savannah woodland dominated by eucalypts and *Casuarina* trees. The soil doors were round, thick and plug-like. Several females had cocoons containing spiderlings ready to emerge, or broods of spiderlings in the nests. A penultimate-instar male (holotype) was kept for several days in a glass vial until it moulted.

*Comments*

Several unnamed species are known from mid and north Q. However, for the present only *C. dietrichae* is described in order to help clarify the status of *Arbanitis longipes* (Koch) (see later discussion on *Arbanitis*). For the same reason, *C. pallida* is redescribed and figured here. A second species, which is similar to *pallida* (if not the same species), occurs to the west of Bowen, near Scotsdale and in patches of sclerophyll woodland in the Proserpine area. This species (or possibly two species) is larger than *dietrichae*, pale tan with a non-hirsute abdomen and with a dorsal pattern of brown spots around the base of bristles.

*Other Material Examined*

**Queensland:** 3 ♀, 9·5 km W. of Bowen, 9.viii.1965, BYM 1965/479, 483, 485; 5 ♀ with young, same data as preceding, BYM 1965/477, 478, 482, 484; 1 ♀ with young, 9·5 km N. of Bowen, 9.viii.1965, BYM 1965/505; 1 ♀, 11·2 km N. of Bowen, 15.viii.1965, BYM 1965/506.

## Tribe **ARBANITINI** Simon

Arbaniteae Simon, 1903, pp. 885, 903. Type-genus by original designation (Simon 1903): *Arbanitis* Koch. Rainbow, 1914, p. 209. Rainbow and Pulleine, 1918, p. 105. Roewer, 1942, p. 174, Bonnet, 1955, p. 634; 1956, p. 1269. Legendre, 1972, p. 437.

Euoploae Rainbow, 1914, p. 217. Type-genus by tautonymy, *Euoplos* Rainbow 1914. Roewer, 1942, p. 162. Bonnet, 1956, pp. 1269, 1813; 1961, p. 12 (*Euoplos* emended to *Evoplos* by Bonnet, 1956, pp. 1804, 1813, 1892). New synonymy.

*Diagnosis*

Medium to large spiders, pale or dark coloured. Eyes may be in compact group of 2 rows or anterior row may be moderately or strongly procurved to produce arrangement of 2,2,4 similar to that of some Aganippini; if in 3 rows then anterior and posterior widths of eye group are about equal. Chelicerae with stout or long teeth, process present or absent. Labium relatively long, anteriorly truncate or attenuated; with or without cuspules. Anterior legs and palps of females generally with thick scopula which may be reduced or lost in *Arbanitis*; males always with scopula on legs I and II; ventral spines, sometimes absent in males. Male with or without apical, bifid apophysis on tibia I. Burrow with or without door.

Distributed across continent generally south of Tropic of Capricorn (a few undescribed specimens from Cape York), rare in southern V; occur also in T.

*Comments*

Simon (1889) included in his group Nemesiae the genera *Nemesia* Savigny, *Genysa* Simon, *Hermacha* Simon, *Spiroctenus* Simon and the Australian genera *Arbanitis* Koch, *Misgolas* Karsch and *Hermeas* Karsch. To this group he later added *Rachias* Simon and *Scalidognathus* Karsch (Simon 1892). Finally, Simon (1903) regrouped the Australian genera *Arbanitis* and *Dyarcyops* Hogg with the extraterritorial genera *Nemesiellus* Pocock and *Scalidognathus* (from India) and *Diadocyrtus* Simon (from the Malagasy Republic) in his new tribe Arbaniteae. Rainbow and Pulleine (1918) included, presumably, only the Australian genera *Dyarcyops*, *Arbanitis* and the new genera *Tambouriniana* and *Albaniana* in the group; at the same time they attributed their new genus *Bancroftiana* (here synonymized with *Arbanitis*) to the Nemesiae. Rainbow (1914) had included only *Euoplos* (= *Evoplos*) in his tribe Euoploae. Thus, the Australian genera have variously been considered as comprising an endemic group or groups, or combined with other genera, essentially ones from the Malagasy Republic and India, until finally the tribe Arbanitini is here considered to comprise only three genera, e.g. Australian and New Zealand representatives, *Arbanitis*, *Misgolas* and *Blakistonia*. Certainly *Misgolas*, and *Arbanitis* particularly, have some affinity with *Scalidognathus*.

*Genera*

*Arbanitis* Koch, *Misgolas* Karsch and *Blakistonia* Hogg.

## Genus **Arbanitis** Koch

(Figs 45–111, 197–200, 217, 218)

*Arbanitis* Koch, 1874, p. 491 (nom. nov. for *Pholeuon* Koch, 1873, pp. 453, 471; preoccupied). Type-species by monotypy: *Pholeuon longipes* Koch, 1873; holotype ♂ from Bowen, Q (ZMB, originally in Godeffroy Museum, lost). Roewer, 1942, p. 174. Todd, 1945, p. 378. Bonnet, 1955, p. 634. Main, 1967, p. 28; 1976, p. 67 (natural history); 1977, pp. 69, 70; 1981, p. 856 (natural history). Clyne, 1969, pp. 79, 80.

*Cantuaria* Hogg, 1902, p. 123 (nom. nov. for *Maoriana* Hogg, 1901, preoccupied). Type-species by original designation: *Maoriana dendyi* Hogg, 1901; holotype ♀ from Christchurch, New Zealand (BMNH, examined). Roewer, 1942, p. 166. Todd, 1945, p. 387 (synonymized with *Arbanitis*). Bonnet, 1956, p. 948. Forster, in Forster and Wilton 1968, p. 15. Main, 1981, pp. 857, 860, 863.

*Euoplos* Rainbow, 1914, p. 217. Type-species by monotypy: *Euoplos spinnipes* Rainbow, 1914; holotype ♀ from Upper Burnett River, Q (AM, examined). Roewer, 1942, p. 162. Bonnet, 1956, p. 1892, emended to *Evoplos*. Main, 1981, pp. 860, 863 (distribution, biology). (Main, 1981, pp. 856–7, suggested possible synonymy.) New synonymy.

*Tambouriniana* Rainbow and Pulleine, 1918, p. 120. Type-species by monotypy: *Tambouriniana variabilis* Rainbow and Pulleine, 1918; holotype ♀ from Tamborine Mountain, Q (AM, examined). Roewer, 1942, p. 176. Bonnet, 1959, p. 4237. Main, 1967, p. 28 (synonymized with *Arbanitis*).

*Albaniana* Rainbow and Pulleine, 1918, p. 122. Type-species by subsequent designation (Petrunkevitch 1928, p. 63): *Albaniana inornata* Rainbow and Pulleine, 1918, p. 122; holotype ♀ from Albany Road, Narrogin (herein emended to Armadale), WA (AM, examined). Roewer, 1942, p. 174. Bonnet, 1955, p. 222. New synonymy.

*Bancroftiana* Rainbow and Pulleine, 1918, p. 127. Type-species by monotypy: *Bancroftiana speciosa* Rainbow and Pulleine, 1918; holotype ♂ from Eidsvold, Q (AM, examined). Roewer, 1942, p. 177. Bonnet, 1955, p. 849. New synonymy.

*Armadalia* Rainbow and Pulleine, 1918, p. 129. Type-species by subsequent designation (Petrunkevitch 1928, p. 63): *Armadalia ornata* Rainbow and Pulleine, 1918; holotype ♀ from Eidsvold, Q (AM, examined). Roewer, 1942, p. 162. Bonnet, 1955, p. 742. Main, 1969, p. 207 (distribution, natural history); 1981, p. 860 (distribution, biology). New synonymy.

*Korua* Todd, 1945, p. 389. Type-species by original designation: *Korua wanganuiensis* Todd, 1945; holotype immature ♂ from Wanganui, New Zealand (OTNZ, examined). Forster in Forster and Wilton, 1968, p. 15 (synonymized with *Cantuaria*). New synonymy.

*Diagnosis*

Carapace with arched caput, sides rounded with broad caput, glabrous, non-hirsute (at least in Australian species) although very old females may develop soft down; appendages glabrous with naked streaks amongst hairs and bristles. Eyes in compact rectangular group, usually at least twice as wide as long; ALE and PLE may be almost contiguous, anterior row not strongly procurved; depression behind ocular area. Fovea deep, procurved, may be U-shaped at least in female; sometimes recurved in male. Chelicerae with large teeth on promargin of furrow, also more or less complete retromarginal row and usually long irregular, intermediate row; rastellum of stout teeth, on slight apical projection; fang usually with serrated keel (Fig. 50). Labium relatively long, separated from sternum by complete or divided sigilla very rarely with a few cuspules. Maxillae with antero-ental cluster of few cuspules. Sternum broad, heart-shaped, 3 pairs of sigilla; posterior pair usually large and well away from margin. Legs (and palps) heavily spined, especially ventral faces of anterior pairs; tarsi and metatarsi of anterior pairs and tarsi of palps usually with scopula which may be very dense and brush-like or barely perceptible to absent. Ventral tarsal and metatarsal spines of anterior legs stout and often arranged more or less serially on pro- and retroventral aspects. Tarsal claws with 1 large tooth and usually 1 or 2 small teeth on paired claws in females, more than 3 teeth in males. Trichobothria irregular on tarsi and metatarsi, double row on tibia; few baton-shaped proximal bothria on at least palp tarsi, occasionally also on tarsi of anterior legs. Abdomen ovoid, hirsute or sparsely hairy; dorsal pattern of pale bars may be present, occasionally dark pattern on pale ground. 2 pairs of spinnerets. Tibia of male palp with midventral process or at least (usually) slight protuberance; retrolateral apical ½ of tibia (and process if present) with few to many short, tooth-like spines. Tibia I of male with or without apical, spined, bifid apophysis; if absent, then 1 to several heavy spines usually present. Distributed in south-west WA, T and eastern Australia in mountainous and coastal regions, rare in V; doubtful record from SA.

*Distribution and Natural History*

Spiders dig burrows in heavy loam and clay soils, usually in damp to wet situations in woodlands, sclerophyll and mesophytic eucalypt forest. Some species occur in semi-arid areas, e.g. *Arbanitis hoggi* (Simon), where they are always confined to areas subject to seasonal flooding, the precincts of ephemeral watercourses or salt lakes or clay pans. Burrows have thick, soil, bath-plug-like doors, which fit tightly into the rim and prevent inundation. Main (1981) discussed the distribution of the genus. The main focal areas are south-west WA and mid-eastern coastal and montane Australia from north-eastern NSW to about Rockhampton. Undescribed specimens are known from Cape York (Main, unpublished data). These were formerly cited as belonging to a new (undescribed) genus (Main 1981) but are now regarded as *Arbanitis*. The genus also occurs in T and is represented in north-eastern V (the latter, Main, unpublished data). However, it is rare in south-eastern Australia and appears to be absent from tropical Australia except in Q. Main (1981) indicated that it occurs in SA and central Australia (NT). The latter record refers to *Cantuarides* Strand, which is here synonymized with *Blakistonia*, and the other record refers to *Armadalia zorodes* Rainbow & Pulleine (= *Arbanitis* sp.) from Mt Lofty, which may be a locality error. No other specimens have ever been collected from SA in spite of a deliberate search over many years. *Cantuaria* cited from T (Main 1981) is here reinstated as *Arbanitis tasmanica* (Hickman) (see later).

*Comments*

The holotype of *Arbanitis longipes* (Koch), type-species of *Arbanitis*, is lost. I have made several searches for topotypic material (in 1965 and 1979) without success. However,

another ctenizid species (described here; see *Cataxia*) is common in the banks of ephemeral watercourses in the country west of Bowen. The male of this species has a bifid apical apophysis on the first tibia whereas Koch's description and figure of *A. longipes* indicate that there is no apophysis. There is no reason to doubt Koch's accuracy in describing *Arbanitis* as lacking a tibial apophysis in spite of statements to the contrary (Simon 1892; Rainbow 1914). Both these authors implied that Koch had ignored or not noticed an apophysis on the male tibia. Simon's definition of *Arbanitis* was based partly on New Zealand species [which may have been *Misgolas* (in part)]. It is now known (Main, unpublished data) that many ctenizid species that can only be attributed to *Arbanitis* lack a tibial apophysis. Koch described four mygalomorphs (presumably all collected by Amalie Dietrich) allegedly from Bowen: *Arbanitis longipes*, *Selenocosmia crassipes* (Theraphosidae), *Aname pallida* (Dipluridae) and *Ixamatus varius* (Dipluridae). I have collected *Selenocosma crassipes* and Raven (1981) has recorded *Aname pallida* from Bowen. However, no *Ixamatus* specimens have been located in the vicinity and since *Ixamatus* generally occurs in rainforest it is unlikely that the original specimens actually came from Bowen. Raven (1981) thus amended the type-locality to Eungella, where the species is known to occur. I have twice collected in the Eungella region where *Cataxia* is common but found no other ctenizid that could be attributed to *Arbanitis* as described by Koch. It is possible that *Arbanitis longipes* may have come from Rockhampton where Amalie Dietrich also collected. I have collected from Rockhampton male specimens that lack a tibial apophysis and therefore are attributed to *Arbanitis*. However, since Amalie Dietrich was at Bowen *after* a long period first at Rockhampton then in the Mackay, Lake Elphinstone areas (Bischoff 1931) it is likely that material collected in these areas (and possibly Eungella?) was shipped out first from Rockhampton and then Mackay. Amalie Dietrich does mention both dispatching and later again packing up at Rockhampton, to be rid of material (Bischoff 1931). It thus seems unlikely that material collected from these regions could have been confused with Bowen collections (which would also mean that *Ixamatus varius* types did not come from Eungella as suggested by Raven). A final possibility is that the type of *Arbanitis longipes* may have been collected on the Holborn Islands, which Amalie Dietrich visited from Bowen (Bischoff 1931). A search on these islands would be well worth while in an effort to clarify the status of this enigmatic species.

Rainbow (1914) figured the tibia of the first leg of a male and described a female specimen (from Eidsvold) which he attributed to *Arbanitis longipes*. I have seen the female specimen (AM, K34428) and it is *Cataxia maculata* Rainbow. The male, probably also *Cataxia* or *Arbanitis*, remains indeterminate. Thus, the species *A. longipes* (Koch) remains without a type and unrecorded apart from the holotype. Because of the uncertainty of specific identity and doubt regarding the actual locality of the type, a neotype for *A. longipes* is not designated.

Nevertheless, there appears no difficulty in attributing other species to the genus as defined by Koch and diagnosed here and the name has been widely used in the taxonomic literature (although many nominal species clearly do not belong in the genus). Therefore, to maintain nomenclatural stability, the name is retained in spite of doubt regarding the type-locality and the anomalous absence of a recognizable type-species!

*Cantuaria* Hogg (replacement name for *Maoriana* Hogg) was established for a species from New Zealand (Hogg 1901, 1902). Todd (1945) synonymized *Cantuaria* with *Arbanitis* but Forster (1968) reinstated it and placed in it all the New Zealand ctenizid species. The only Australian species nominally attributed to *Cantuaria* is *C. hoggi* Simon, which Main attributed to *Arbanitis* (Main 1956, p. 162; 1967, p. 28). Main (1981) inferred the validity of *Cantuaria* in reference to the species *Aganippe tasmanica* Hickman [= *Arbanitis tasmanica* (Hickman), see Main 1957*b*, p. 427]. I now consider that this species is rightly attributed to *Arbanitis* and believe that there is no justification for retaining *Cantuaria* if one accepts the foregoing rationale regarding the status of *Arbanitis*. It should be noted that Forster's description of *Cantuaria dendyi* (Hogg) does not entirely agree with Hogg's description, nor, in regard to certain characters, with the type-specimen. In particular, the fovea of the type is markedly procurved, a significant feature distinguishing most *Arbanitis*

(females) from other related genera, e.g. *Misgolas*. Many of the species discussed by Forster under *Cantuaria* probably belong to *Misgolas*. Main (1981, p. 863) regarded *Cantuarides* as a synonym of *Arbanitis*; this was in error and *Cantuarides* is here and elsewhere (Main 1985*a*) synonymized with *Blakistonia*.

*Species* (see Appendices 1 and 2)

*A. annulipes* (C. Koch), *A. festivus* Rainbow & Pulleine, *A. inornatus* (Rainbow & Pulleine), *A. hoggi* (Simon), *A. longipes* (Koch), *A. ornatus* (Rainbow & Pulleine), *A. similaris* Rainbow & Pulleine, *A. spinnipes* (Rainbow), *A. variabilis* (Rainbow & Pulleine).

### *Arbanitis inornatus* (Rainbow & Pulleine), comb. nov.

(Figs 45–50, 66, 67, 72, 79, 81, 82, 89, 94, 95, 104, 197, 217, 218; Table 7)

*Albaniana inornata* Rainbow and Pulleine, 1918, p. 122. Type-species of *Albaniana* Rainbow & Pulleine by subsequent designation (Petrunkevitch 1928, p. 63). Holotype ♀ from Albany Road, Narrogin, herein emended to Armadale, WA (AM, examined). Roewer 1942, p. 174. Bonnet, 1955, p. 223. Not *Arbanitis inornatus* Rainbow & Pulleine, 1918 (= *Cataxia maculata* Rainbow).

*Albaniana flavomaculata* Rainbow and Pulleine, 1918, p. 125. Holotype ♀ from Albany Road, Narrogin, herein emended to Armadale, WA (AM, examined). Roewer 1942, p. 174. Bonnet, 1955, p. 223. New synonymy.

*Armadalia setosa* Rainbow and Pulleine, 1918, p. 130. Holotype, immature (?) ♀ from Armadale, WA (AM, examined). Roewer, 1942, p. 162. Bonnet, 1955, p. 742. New synonymy.

*Diagnosis*

Medium sized spiders, reddish to tan-brown with conspicuous dorsal pattern of broad, yellow bands on abdomen. Cheliceral groove without intermediate row of teeth (1 to few basal teeth only). Female fang with outer keel and inner serrated edge. Female with sparse scopula on legs; patella III with few prolateral spines. Male without spines on tarsi I and II, without apophysis or heavy apical spines on tibia I; palp tibia with only slight medial protuberance but densely spined.

**Table 7. Leg dimensions of *Arbanitis inornatus* (Rainbow & Pulleine)**

Measurements are for the left appendage (right damaged) of the female (holotype of *Albaniana flavomaculata* Rainbow & Pulleine) with those for the right appendage of the male (allotype *Albaniana flavomaculata*, nec paratype) in parentheses. Leg formula: 4/2·55(3·67), 1/2·11(3·39), 2/1·91(3·14), 3/1·88(2·64). Width of patella I at knee, 1·4(1·0); tibial index, 20·0(12·19). Width of patella IV at knee, 1·6(1·1); tibial index, 20·2(13·25)

| Limb | | Length (mm) | | | | | |
|---|---|---|---|---|---|---|---|
| | | F | P | Ti | M | Ta | Total |
| Palp | | 4·8(3·9) | 3·1(1·9) | 3·0(3·7) | — | 2·9(1·3) | 13·8(10·8) |
| Leg | I | 5·6(6·4) | 3·5(3·1) | 3·5(5·1) | 2·6(4·4) | 1·7(2·7) | 16·9(21·7) |
| | II | 4·8(6·0) | 3·4(2·9) | 3·0(4·5) | 2·5(4·1) | 1·6(2·5) | 15·3(20·0) |
| | III | 4·3(4·9) | 3·2(2·6) | 2·7(3·6) | 3·0(3·9) | 1·9(1·9) | 15·1(16·9) |
| | IV | 6·0(6·5) | 3·9(3·2) | 4·0(5·1) | 4·4(5·6) | 2·2(3·1) | 20·5(23·5) |

*Female* (holotype, *Albaniana flavomaculata* Rainbow & Pulleine)

Condition fair but brittle, abdomen and internal organs shrivelled, integument transparent.

Carapace length 8·0, width 7·3, caput width 5·0. Dorsal pattern of pale bands recognizable on abdomen. *Carapace*. Strongly procurved fovea. *Eyes*. Group compact, width twice length; length 0·8, width 1·6, clypeus small peak with about 10 fine bristles. *Chelicerae*. Large teeth on rastellum. Paturon groove with 6 teeth on promargin, 8 on retromargin, 1 basal intermediate tooth. *Labium*. Length 1·3, width approximately 1·7; anteriorly truncate. *Maxillae*. About 15 antero-ental cuspules; ectal angle not pronounced.

*Sternum*. Large oval posterior sigilla, 1st and 2nd pairs round; labium separated from sternum by divided sigilla. *Legs*. Scopula absent from palp tarsus, thin prolateral scopula on tarsi and metatarsi I and II, apical only on metatarsi II. *Trichobothria*. About 4 proximal baton-like bothria (at end of row) on palp tarsus and tarsi I and II. Few clubbed hairs on 1st pair of legs. *Tarsal claws*. 2 teeth on palp claw and both superior claws of legs I and II, and prolateral claw of III and IV; tooth on retroclaw of III and IV. *Spines*. Palp: tarsus pv 12, rv 11; tibia pv 8, rv 6. Leg I: tarsus pv 2 apical, rv 9; metatarsus pv 7, rv 8; tibia pv 5, rv 10. Leg II: tarsus 11 mostly rv; metatarsus pv 7, rv 6; tibia pv 4, rv 5. Leg III: tarsus v 7; metatarsus v 2 apical, d 2 distal, pd 1 medial; tibia pd 1 medial; patella pd 3. Leg IV: tarsus v 10; metatarsus pv 3 apical 3; tibia pv 1 apical. *Internal genitalia* as in Fig. 197 (BYM 1959/66). ♀ with young; carapace length 8·0, width 7·3. Byford, 6·5 km E., WA, 10.iv.1959, B. Y. Main.

*Male* ['allotype', nec paratype, *Albaniana flavomaculata* Rainbow & Pulleine, herein designated. ♂ from Brockman River, a few km N. junction with Avon River, WA, 26.ix.1953, B. Y. Main (BYM 1953/384; WAM 83/404)]

Carapace length 6·4, width 5·8, caput width 3·3; abdomen length 6·5. *Colour*. In life reddish brown legs with yellowish patches; abdomen dark brown with transverse yellow bands. *Carapace*. Scattered bristles and marginal spines. Fovea straight, edges reflexed. *Eyes*. Group close to margin of carapace, twice as wide as long; length 0·7, anterior width 1·7, posterior width 1·3. Diameters of eyes: ALE 0·4, AME 0·25, PLE 0·2, PME 0·15. Anterior row procurved, posterior row slightly recurved. *Chelicerae*. Paturon groove with 6 teeth on promargin, 6 (7 left) on retromargin, 3 basal intermediate teeth. *Labium*. Length 1·2, width 1·8. *Maxillae*. At least 30 antero-ental cuspules. *Sternum*. Length 5·4, width 4·8. *Legs*. Scopula on tarsi I and II and apical area of metatarsi I and II. *Trichobothria*. 12–15 on tarsi, 10–14 on metatarsi, 3–6 in each row on tibia; no baton-like bothria. *Tarsal claws*. Superior claws: Leg I, p 4, r 4 (1 divided). Leg II, p 6, r 4. Leg III, p 4, r 4. Leg IV, p 3 + 1 minute basal, r 3. *Spines*. Palp: tarsus 0. Leg I; tarsus 0; metatarsus v 15; tibia v 7. Leg II: tarsus 0; metatarsus v 9; tibia v 5. Leg III: tarsus v 11; metatarsus v 12, d 3 (2 apical, 1 pd); tibia v 3, p 1; patella p 3. Leg IV: tarsus v about 15; metatarsus v about 12; tibia ventral spine-like bristles. *Palp*. Embolus with broad base, tapering to slightly bent tip; tibia with slight protuberance, about 45–50 spines spreading around distal, cup-shaped depression, few longer spines on apex of protuberance (Fig. 94). *Tibia I*. Without apophysis or heavy apical ventral spines.

*Distribution and Natural History*

Spiders occur in heavy loamy soil in permanently damp, steep-sided banks of the rivers and creeks of the Darling scarp, WA, between the Brockman and Serpentine Rivers and probably south to at least the Murray River system. The burrows are relatively shallow up to about 20 cm and often extend horizontally into the banks of creeks; doors are circular, thick, and fit like a cork or plug into the bevelled rim of the burrow. Males wander during late winter and early spring; the young disperse during autumn.

*Comments*

The locality on the type-specimen labels and in the descriptions of *Albaniana inornata* and *A. flavomaculata* is given as Albany Road, Narrogin whereas in their introductory notes Rainbow and Pulleine (1918) stated that these species were collected at Armadale, WA. Undoubtedly the 'Narrogin' referred to was a misnomer for the Narrogin Inn public house located on the Albany Highway at Armadale. The species still occurs in creeks of the vicinity, indeed one creek runs within a few hundred metres of the inn's site.

The type of *A. flavomaculata* is in better condition than that of *A. inornata* from which many of the hairs and bristles have been rubbed off and the abdomen of which is faded with resultant loss of the characteristic dorsal pattern. *A. setosa* is also damaged with leg

segments detached but the abdominal pattern is still distinct. It appears to be immature with carapace length of 5·2. The type of *A. flavomaculata* is described here and the internal genitalia of a later-collected specimen (BYM 1959/66) is figured.

### *Arbanitis ornatus* (Rainbow & Pulleine), comb. nov.

(Figs 51–55, 64, 65, 70, 71, 74, 77, 78, 83, 84, 88, 92, 93, 105, 198; Table 8)

*Albaniana ornata* Rainbow and Pulleine, 1918, p. 123. Holotype ♀ from Eidsvold, Q (AM, examined). Roewer, 1942, p. 174. Bonnet, 1955, p. 223.

*Bancroftiana speciosa* Rainbow and Pulleine, 1918, p. 127. Type-species of *Bancroftiana* Rainbow & Pulleine, by monotypy. Holotype ♂ from Eidsvold, Q (AM, examined). Roewer, 1942, p. 177. Bonnet, 1955, p. 849. New synonymy.

*Armadalia ornata* Rainbow and Pulleine, 1918, p. 129. Type-species of *Armadalia* Rainbow & Pulleine, by subsequent designation (Petrunkevitch 1928, p. 63). Holotype ♀ from Eidsvold, Q (AM, examined); 'cotypes' (= paratypes) 2 ♀ from Eidsvold, Q (SAM, examined). Roewer, 1942, p. 162. Bonnet, 1955, p. 742. New synonymy.

*Diagnosis*

Medium sized, tan spiders with distinct dorsal pattern of pale bands (females). Cheliceral groove with complete intermediate row of teeth. Female with keel and serration on fang, labium usually with 2 or several cuspules, legs with sparse scopula and relatively few spines on anterior legs. Male palp with densely spinose, small medial protuberance on tibia, embolus with spoon-shaped tip; tibia I without apophysis but with at least 2 heavy, apical ventral spines (i.e. megaspines).

**Table 8. Leg measurements of *Arbanitis ornatus* (Rainbow & Pulleine)**

Measurements are for the female (holotype of *Albaniana ornata* Rainbow & Pulleine) with those for the male (holotype of *Bancroftiana speciosa* Rainbow & Pulleine) in parentheses. Leg formula: 4/2·47(3·97), 1/2·13(3·54), 2/1·96(3·28), 3/1·82(3·01). Width of patella I at knee, 1·3(1·3); tibial index, 17·56(13·54). Width of patella IV at knee, 1·5(1·3); tibial index, 19·23(12·87)

| Limb | | Length (mm) | | | | | |
|---|---|---|---|---|---|---|---|
| | | F | P | Ti | M | Ta | Total |
| Palp | | 4·8(4·0) | 3·0(2·2) | 3·5(3·7) | — | 3·0(1·5) | 14·3(11·4) |
| Leg | I | 6·0(8·0) | 3·7(3·8) | 3·7(5·8) | 2·6(6·0) | 1·7(3·0) | 17·7(26·6) |
| | II | 5·5(7·5) | 3·2(3·4) | 3·2(5·5) | 2·6(5·4) | 1·8(2·8) | 16·3(24·6) |
| | III | 4·0(6·3) | 3·0(3·0) | 3·1(4·7) | 3·0(5·5) | 1·9(3·1) | 15·1(22·6) |
| | IV | 6·4(8·0) | 3·8(3·5) | 4·0(6·6) | 4·1(8·0) | 2·1(3·7) | 20·5(29·8) |

*Female* (holotype, *Albaniana ornata* Rainbow & Pulleine)

Carapace length 8·3, width 7·0, caput width 4·5; abdomen length 11·5. *Colour.* Generally tan, glabrous; abdomen with distinct dorsal pattern of pale bands, venter pale. *Carapace.* High arched caput, sparse hairs. Fovea strongly procurved. About 6 bristles (rubbed off) in line between eyes and fovea, pair just in front of fovea. *Eyes.* Group close to margin of carapace; group more than twice as wide as long; length 0·8, anterior width 1·6, posterior width 1·8; pronounced depression behind eyes. *Chelicerae.* Paturon groove with complete intermediate line of teeth; 7 on promargin (9 left), 11 on retromargin (12 left), 11 intermediate (about 6 on left chelicera). Fang with pronounced prolateral serration. *Labium.* Length 0·8, width about 1·1; with 2 cuspules; separated from sternum by continuous sigilla. *Maxillae.* With about 25 antero-ental cuspules; small antero-ectal process. *Sternum.* With fine scattered bristles; posterior sigilla broad oval. *Legs.* Scopula sparse, present on palp tarsus and on tarsi I and II, prolateral aspect only on metatarsi I and II. *Trichobothria.* Palp tarsus with about 8 in line, 3 or 4 baton-like, proximal bothria (Figs 70–72); 13–19 on leg tarsi; 12–14 on metatarsi; 4–6 in each line on tibia. *Tarsal claws.* Palp, 2 large, 1 small

basal teeth. Superior claws: Leg I, p 2, r 2. Leg II, p 2, r 2. Leg III, p 2, r 1. Leg IV, p 1, r 1. *Spines*: Palp: tarsus pv 4, rv 4 (broken); tibia pv 5, rv 4. Leg I: tarsus pv 1, rv 3; metatarsus pv 3, rv 5; tibia pv 3, rv 5. Leg II: tarsus pv 2, rv 3; metatarsus pv 4, rv 3; tibia pv 4, rv 4. Leg III: tarsus v 6; metatarsus v 2-2, pd 4, rv 3; tibia v bristles only; pd 1; patella pd 3; dense d bristles on patella, tibia and proximally on metatarsus. Leg IV: tarsus v 8 (distal half); metatarsus v 2-1-1-1; tibia v 1 (apical). *Internal genitalia.* As in Fig. 198 (BYM 1965/160). ♀ with eggs; carapace length 8·3, width 7·0. Between Eidsvold and Cracow, 51.5 km W. (on Bancroft's property), Q, 19.iv.1965, B. Y. Main.

*Male* (holotype, *Bancroftiana speciosa* Rainbow & Pulleine)

Condition of specimen, fragile and brittle, several legs detached and some segments, e.g. left tarsus I, missing.

Carapace length 7·5, width 6·7, caput width approximately 4·5; abdomen 8·3. Abdomen with conspicuous pattern of 4 pairs of yellow bands followed by 3 bars; venter pale. *Carapace.* Thin, bristle-like marginal spines. Fovea almost straight. *Eyes.* Group not quite twice as wide as long; posterior width 1·6. Diameters of eyes: ALE 0·4, AME 0·25, PLE 0·3, PME 0·15; ALE apart 0·8, AME apart 0·2; ALE from PLE 0·2; anterior row slightly procurved. Eyes close to margin of carapace which forms small peak (= clypeus) in front of eyes. About 5 strong bristles in line between eyes and fovea. *Chelicerae.* Paturon groove with complete intermediate row of teeth; 7 promarginal (6 left), about 14 small retromarginal (11 left), about 9 intermediate (6 left). Fang with ventral serrations. *Labium.* Length 0·8, width 0·7; separated from sternum by broad more or less continuous sigilla. *Maxillae.* With about 25 cuspules on antero-ental angle. All coxae of legs with stout spinule-like bristles on anterior faces of coxae. *Sternum.* Length 4·3, width 3·1, scattered fine bristles. *Legs.* Dense scopula on tarsi I and II. *Trichobothria.* Numerous and irregular on tarsi and metatarsi, typical double line on tibia. *Tarsal claws.* Superior claws: Leg I, p 6, r lost. Leg II, p 3 large, 3 small, r 2 large, 3 small. Leg III, p 3 large, 3 small, r 2 large, 3 small. Leg IV, p 3 large, 4 small, r 2 large, 2 small basal. *Spines.* Leg I: tarsus v 0, metatarsus pv 1; rv 2 apical; tibia rv 1 apical. Leg II: tarsus pv 1?; metatarsus pv 1 medial 2 apical. Leg III: tarsus v 14; metatarsus v at least 10 extending pro- and retrolaterally; tibia rv 2 ensiform 2 apical. Leg IV: tarsus v about 10 (some ensiform); metatarsus v about 10+ (some ensiform); tibia v 2-2 (?). *Palp.* Tibia with small, bluntly pointed medial retrolateral ventral protuberance; process thickly covered with more or less evenly sized tooth-like spines that extend around slight distal depression. Embolus broad-based, tip with spoon-shaped depression. *Tibia I.* With low, apical prominence (but not apophysis) with sockets of at least 2 megaspines.

*Distribution and Natural History*

Spiders are known only from the Eidsvold region, Q, where they occur in clay soils in poorly drained, low-lying areas such as gilgais. Nests are closed with a circular, plug-like door. Females have been collected with eggs during April (Main, unpublished data), which suggests that males probably run during the summer (i.e. the rainy season).

***Arbanitis spinnipes*** (Rainbow), comb. nov.

(Figs 56–59, 75, 76, 199; Table 9)

*Euoplos spinnipes* Rainbow, 1914, p. 219; holotype ♀ (with cocoon of 117 spiderlings) from Upper Burnett River, Q (AM, examined). Type-species of *Euoplos* (emended to *Evoplos* by Bonnet 1956, pp. 1804, 1892). Roewer, 1942, p. 162. Bonnet, 1956, p. 1892.

*Diagnosis* (♀)

Large reddish spiders with glabrous carapace and appendages. Abdomen covered dorsally with dense, spinule-like spines; long, slightly tapering, anteriorly truncate labium; sternum with some spinule-like bristles; legs without scopula.

*Holotype*

Condition poor, brittle, some legs detached and fragmented.

Carapace length 14·7, width 11·0. *Carapace* and appendages dark reddish, glabrous; abdomen uniformly brownish, without dorsal pattern; thorn-like (or spinule-like) spines (modified hairs) all over dorsal aspect of abdomen, no fine hairs, wrinkled cuticle, ventrally hirsute. Fovea deeply procurved. *Eyes*. Eye-group compact, twice as wide as long; length 1·2, width 2·4. Diameters of eyes: ALE 0·6, AME 0·35, PLE 0·4, PME 0·15; ALE apart 1·5, AME apart 0·3; ALE from PLE 0·4. Clypeus peak about 0·6 with group of at least 20 fine bristles; about 7 bristles (rubbed off) in line between eyes and fovea. *Chelicerae*. Paturon groove with 7 teeth on promargin, 12 (10 left) on retromargin and complete intermediate but irregular line of about 14 teeth (about 12 on left). *Labium* elongate, length 2·2, width 2·5; separated by 2 sigilla from sternum; without cuspules. *Maxillae* with about 12 antero-ental cuspules. *Sternum*. Length 9·0, width 6·3; most of bristles rubbed off; posterior sigilla large, ovoid, well away from margin; posterior demarcation of sternum indistinct with continuous sclerotization over membranous area. *Legs*. Scopula absent. Few ventral 'clubbed' hairs on legs I and II. *Trichobothria* mostly rubbed off; few baton-like bothria on palp tarsus. *Tarsal claws*. Superior claws: legs I and II each with large tooth with small tooth underneath; legs III and IV with 1 or 2 small teeth; palp claws damaged. *Spines*. Many broken off, counts ascertained from bases. *Palp*: tarsus pv 17, rv 16; tibia pv 8, rv 5. Leg I: tarsus pv 9, rv 8; metatarsus pv 19, rv 17; tibia pv 4, rv 4. Leg II: tarsus pv 6, rv 5; metatarsus pv 8, rv 7. Leg III: tarsus v 12; metatarsus v 6, p 5; tibia v 2 apical, p 2; patella p 11 short stout spines; femur d tiny spine-like bristles. Leg IV: tarsus v about 11; metatarsus pv 8 rv 0; tibia pv 1 apical; patella p 3. *Internal genitalia* as in Fig. 199 (BYM 1965/127); pair of short-stemmed trunks slightly broader at base, terminal 'crowns'.

**Table 9. Leg dimensions of *Arbanitis spinnipes* (Rainbow)**

Measurements are for the female (holotype of *Evoplos spinnipes* Rainbow). Leg formula: 4/2·1, 1/1·85, 2/1·6, 3/1·62. Width of patella I at knee, 2·1; tibial index, 19·09. Width of patella IV at knee, 2·5; tibial index, 19·37

| Limb | | Length (mm) | | | | | |
|---|---|---|---|---|---|---|---|
| | | F | P | Ti | M | Ta | Total |
| Palp | | 7·0 | 5·0 | 5·2 | — | 5·0 | 22·2 |
| Leg | I | 9·4 | 5·5 | 5·5 | 4·3 | 2·5 | 27·2 |
| | II | 7·3 | 5·5 | 4·6 | 3·7 | 2·5 | 23·6 |
| | III | 6·0 | 5·5 | 4·7 | 4·6 | 3·0 | 23·8 |
| | IV | 8·7 | 6·7 | 6·2 | 6·1 | 3·3 | 31·0 |

*Distribution and Natural History*

The species occurs in the Eidsvold area and to the north and east, Q. Spiders inhabit clay soils in steep-banked ephemeral creeks. The soil door is large, circular, very thick and fits tightly into the oblique entrance of the nest. The male is unknown.

### *Arbanitis variabilis* (Rainbow & Pulleine)

(Figs 60–63, 68, 69, 73, 80, 85–87, 90, 91, 96–103, 106, 107, 200; Table 10)

*Tambouriniana variabilis* Rainbow and Pulleine, 1918, p. 121. Type-species of *Tambouriniana* Rainbow & Pulleine, 1918; holotype ♀ from Tamborine Mountain, Q (AM, examined). Roewer, 1942, p. 176. Bonnet, 1959, p. 4237. Main, 1964, 1967, 1980, p. 28.

*Tambouriniana variabilis flavomaculata* Rainbow and Pulleine, 1918, p. 122. Holotype ♀ from Tamborine Mountain, Q (AM, examined). Roewer, 1942, p. 176. Bonnet, 1959, p. 4237 (synonymized with *variabilis*).

*Albaniana villosa* Rainbow and Pulleine, 1918, p. 124. Holotype ♀ from Tamborine Mountain, Q (AM, examined). Roewer, 1942, p. 174. Bonnet, 1955, p. 223. New synonymy.

*Arbanitis variabilis* (Rainbow and Pulleine): Main, 1964, 1967, 1980, p. 28.

*Diagnosis*

Large reddish brown spiders. Females with broad high caput up to 14 or 15 mm long; hirsute abdomen sometimes with faint dorsal pattern of pale bands; dense scopulae on anterior legs, sparse on palp tarsus; short, stout ventral spines on palp tarsus and tarsi and metatarsi of legs I and II: internal genitalia pair of relatively long-stemmed trunks terminating in spherical 'crowns'. Male with scopula on tarsi I and II and apical area of metatarsi I and II; all tarsi with tuft of long hairs beneath claws; series of densely arranged spines on pro- and retrolateral edges of ventral faces of tarsi and metatarsi I and II; dense shorter spines in median area of ventral faces of metatarsi and tibia I and II. Tibia I with bifid apophysis. Spinous median process of palp tibia usually with pronounced swelling or 'bump' on upper side.

**Table 10. Leg dimensions of *Arbanitis variabilis* (Rainbow & Pulleine)**

Measurements are for the female (holotype of *Tambouriniana variabilis* Rainbow & Pulleine) with those for the male (allotype, nec paratype, of *Tambouriniana variabilis*) in parentheses. Leg formula: 4/2·26(3·47), 1/1·85(2·97), 2/1·74(2·85), 3/1·74(2·67). Width of patella I at knee, 2·3(1·6); tibial index, 19·16(15·23). Width of patella IV at knee, 2·8(1·6); tibial index, 21·21(14·28)

| Limb | | Length (mm) | | | | | |
|---|---|---|---|---|---|---|---|
| | | F | P | Ti | M | Ta | Total |
| Palp | | 7·2(5·0) | 5·2(2·7) | 5·0(4·5) | — | 4·8(1·7) | 22·2(13·9) |
| Leg | I | 8·5(8·4) | 6·3(4·3) | 5·7(6·2) | 4·2(5·5) | 2·7(3·0) | 26·4(27·4) |
| | II | 7·5(7·8) | 5·7(4·1) | 5·0(5·7) | 4·2(5·7) | 2·4(3·0) | 24·8(26·3) |
| | III | 7·0(6·5) | 5·7(4·0) | 4·4(4·7) | 4·7(6·0) | 3·0(3·4) | 24·8(24·6) |
| | IV | 9·0(8·8) | 6·7(4·5) | 6·5(6·7) | 6·8(8·0) | 3·2(4·0) | 32·2(32·0) |

*Female* (holotype, *Tambouriniana variabilis* Rainbow & Pulleine)

Carapace length 14·2, width 12·2; abdomen length approximately 17·5. *Colour.* Reddish brown, glabrous carapace and legs; greyish brown, hirsute abdomen without dorsal pattern but with median dorsal bristles (mostly rubbed off). Fovea deeply procurved. *Eyes.* In raised, compact group with deep depression behind; width less than twice length; length 1·45, width 2·65. Diameters of eyes: ALE 0·75, AME 0·3, PLE 0·5, PME 0·3. Clypeus peak about 0·5 and bearing about 25 bristles. 7 or 8 bristles between eyes and fovea. *Chelicerae.* Rastellum of broken teeth. Paturon groove with 6 (7 left) teeth on promargin, about 11 (14 left) teeth in irregular line on retromargin and irregular intermediate line of about 26 (25 left) teeth. *Labium.* Length 2·0, width 2·8, convex; broad sigilla (about 0·5) separating labium from sternum. *Maxillae.* About 40 antero-ental cuspules; spinules scattered amongst bristles; angular antero-ectal area, without lobe. *Sternum.* Broad; length 8·5, width 7·4; sigilla large posterior pair asymmetrical, subspherical, well away from margin. *Legs.* Stout; scopula dense on tarsi and metatarsi I and II, sparse on palp tarsus. *Trichobothria* damaged; palp with 5 normal and 5 baton-like bothria; legs with about 8–13 on tarsi and metatarsi. *Tarsal claws.* Superior claws: with 1 large tooth and small tooth underneath. *Spines.* Palp: tarsus pv 8, rv 10; tibia pv 7. Leg I: tarsus v 10; metatarsus pv 6, rv 7; tibia pv 4, rv 4. Leg II: tarsus v 9; metatarsus pv 6, rv 4; tibia pv 1 apical, rv 4. Leg III: tarsus v 8; metatarsus v 2 apical, pd 3, rd 3, p 2; tibia p 1; patella p 6. Leg IV: tarsus v about 15; metatarsus v 5. *Internal genitalia.* Pair of relatively long-stemmed trunks terminating in spherical 'crowns' (Fig. 200).

*Male* ['allotype', nec paratype, *Tambouriniana variabilis* Rainbow & Pulleine herein designated, from Tamborine Mountain (Dalby property), Q, summer 1980–1981. QM S 1389.]

Carapace length 9·2, width 8·1. *Colour.* Reddish brown, abdomen dark brown. Abdomen hirsute without distinct dorsal pattern. *Carapace.* Broad, glabrous; narrow sinuous radiating lines of delicate bristles. Marginal hairs and few spines on posterolateral angles. Fovea deeply procurved, almost U-shaped. *Eyes.* On tubercle; group twice as wide as long;

length 1·0, anterior width 1·8, posterior width 2·0. Diameters of eyes: ALE 0·5, AME 0·3, PLE 0·6, PME 0·2, ALE from PLE 0·5. *Chelicerae.* Rastellum cluster of blunt teeth, no process. Paturon with 8 teeth on promargin, 7 (6 left) on retromargin, 7 or 8 intermediate teeth. *Labium.* Length 1·1, width approximately 1·7; 2 very delicate pointed cuspules; separated from sternum by narrow sigilla. *Maxillae.* At least 10 fine cuspules on antero-ental angle. *Sternum.* Length 5·0, width 4·6; posterior sigilla large, broad oval. *Legs.* Dense scopula on tarsi I and II and apical area of metatarsi I and II. Thick, prominent tuft of long hairs beneath claws (Figs 106, 107). Tarsi I and II with few proximal baton-like bothria. *Tarsal claws.* All superior claws with 2 or 3 teeth of which 1 or 2 have 2 or 3 terminal prongs (Fig. 80). *Spines.* Tarsi I and II with dense arrangement of heavy spines on ventral edges with numerous shorter spines in median areas on metatarsi II. Tibia I and II, respectively, with about 35 and 25 irregularly arranged ventral spines. Tarsi and metatarsi III and IV with numerous irregularly arranged spines on ventral, pro- and retrolateral faces. Metatarsus III with pair of apical dorsal spines and patella III with 3 stout, prolateral spines. *Tibia I* with bifid apophysis; retrolateral lobe with 2 blunt inner teeth and several outer spines; prolateral lobe horny and with 1 tooth-like spine. *Palp.* Tarsus with few dorsal spines. Tibial median process long and tapering and with definite basal 'bump' or swelling on lower curvature of cup-shaped depression (Figs 96–98). Embolus with broad, flanged tip (Figs 99, 100).

*Distribution and Natural History*

The species is common on Tamborine Mountain, Lamington Plateau and generally in the mountainous areas of the border country of NSW and Q. Rainbow and Pulleine (1918) listed specimens from Eidsvold but it is doubtful whether they are conspecific. Spiders build very thick soil doors and the burrows occur in open, wet areas, e.g. moss patches and banks of creeks usually where sclerophyll eucalypt forest interdigitates with rainforest. The species occurs sympatrically on Lamington Plateau with an undescribed species (which has a thinner, less plug-like door) and in areas around Brisbane with *Arbanitis similaris* Rainbow & Pulleine.

*Comments*

Main first used the species name in the combination *Arbanitis variabilis* in the pocket guide-book 'Spiders of Australia', which, although published in 1964, carried no publication date. The book was reprinted in 1967 (Main 1967), thus this is the correct date for the new combination.

*Male Variation*

Several males have been examined including three from Tamborine Mountain. One of these (QM S 1390) (Figs 87, 91, 101–103) from Palm Grove (a rainforest habitat) differs in several respects from the 'allotype' as do also several specimens from other localities in rainforest habitats in Q and NSW. In these specimens, the tibial process of the palp is shorter and broader and lacks the 'bump' (Figs 101, 102); the apophysis on tibia I has a more obvious blunt spine on the prolateral lobe; and the abdomen has a faint but marked dorsal pattern (Fig. 87). Specimens of this latter form 'B' are tentatively included in *variabilis* but further observations may prove it to be a separate species.

An undescribed species occurs sympatrically on Lamington Plateau and at other localities with *A. variabilis* (Main, unpublished data) and it is possible that the male form represented by the Palm Grove specimen may be the male of this species.

*Incertae Sedis*

## *Arbanitis annulipes* (C. L. Koch)

(Figs 108–111)

*Mygale annulipes* C. L. Koch, 1842, p. 52. Holotype, from Van Diemen's Land, whereabouts of type unknown, possibly lost. Roewer, 1954, p. 1594 (nicht zu deuten).
*Brachythele annulipes* (C. L. Koch): Bonnet, 1957, p. 2989.
*Hexathele annulipes* (C. L. Koch): Ausserer, 1871, p. 217.
*Arbanitis maculipes* Hogg, 1903, p. 311. Holotype ♀ from T (BMNH, examined). Musgrave, 1948, p. 76, synonymized with *Mygale annulipes* in new combination *Arbanitis annulipes*.
*Arbanitis annulipes* (C. L. Koch): Musgrave, 1948, p. 76. Hickman, 1967, p. 16 (described ♂).
*Macrothele aculeata* Urquhart, 1893, p. 94. Holotype ♂ from T (lost). Roewer, 1942, p. 206. Bonnet, 1957, p. 2690. Main, 1960, p. 30. New synonymy.
*Hermeas crispus* Karsch, 1878: Musgrave, 1948, p. 76. Here placed in *Misgolas*.

### *Diagnosis*

Female with low caput; compact slightly raised eyes; straight or slightly procurved fovea; relatively small sternal sigilla; long legs; palp and anterior legs with heavy ventral spines and dense scopula; carapace and legs glabrous, yellowish with conspicuous dark, reddish markings or decorations. Male palp with median, spined process on tibia; relatively short, tapering embolus; tibia I with spined, bifid apophysis.

*Holotype* ♀, Arbanitis maculipes *Hogg* (Figs 108–111) [Citations of Hickman (1967) refer to other specimens]

Condition fair, some appendages detached, abdomen shrunk.

*Colour.* Yellowish to reddish brown, carapace mottled, legs with dark mottlings (or maculations): abdomen uniform colour (lightly banded in other specimens). *Carapace.* Length 10·5, width 7·5. Fovea straight (compare with Hickman's statement 'deeply procurved'). *Eyes* slightly raised but not tuberculate (Hickman, 'low tubercle'). *Chelicerae.* Rastellum not on process. Paturon groove with 8 promarginal teeth, 8 retromarginal and few small intermediate teeth. *Labium* without cuspules. *Maxillae.* Cuspules on antero-ental angle but no spinules. *Legs.* Dense scopula on tarsi of palp and legs I and II and metatarsi I and II. Stout, ventral spines on palp tarsus and tibia (Fig. 111), few on tarsi I and II, many on metatarsi and tibia I and II, shorter ventral spines on legs III and IV, including some dorsal spines. *Tarsal claws.* Superior claws with 1 large tooth and 1 to several small teeth.

### *Comments*

Musgrave's synonymy of *Arbanitis maculipes* Hogg with Koch's species is accepted here. However, because the type of *annulipes* is apparently lost, that of *maculipes* is here briefly described. *Macrothele aculeata* Urquhart is clearly a ctenizid (Main 1960) and almost certainly synonymous with *A. maculipes* and thus *annulipes*. Hickman (1967) described and figured the male under the name *Arbanitis annulipes*.

Although this species is now generally accepted in *Arbanitis*, Main (1977) suggested an affinity with *Dyarcyops* (here synonymized with *Misgolas*). It is similar to *Misgolas* in the relatively low caput, small sternal sigilla and decorated legs, i.e. the maculated pattern. Like *Misgolas*, it lacks a door to the burrow (Hickman 1967). However, the glabrous carapace and appendages, heavily armed palp and anterior legs and close-set eyes are more characteristic of *Arbanitis*. The generic status is still uncertain. The species may represent a distinct genus.

## Genus **Misgolas** Karsch

(Figs 112–145, 201, 202)

*Misgolas* Karsch, 1878, p. 821. Type-species by original designation: *Misgolas rapax* Karsch, 1878, p. 821; holotype ♀ from NSW (ZMB, examined, dry pinned specimen). Simon, 1889, p. 179; 1892, pp. 111, 116. Bonnet, 1957, p. 2931.

*Hermeas* Karsch, 1878, p. 823. Type-species by original designation: *Hermeas crispus* Karsch, 1878, p. 823; holotype ♀ from T (Van Diemen's Land), (ZMB, examined, dry pinned specimen). Simon, 1889, p. 179; 1892, pp. 111, 116. Bonnet, 1957, p. 2168. New synonymy.

*Dyarcyops* Hogg, 1902, p. 130. Type-species by original designation: *Dyarcyops andrewsi* Hogg, 1902, p. 130; 3 syntypes ('cotypes') 2♀, juvenile from Mt Compass, SA [BMNH and SAM, examined; BMNH ♀ specimen designated as lectotype]. Bonnet, 1956, p. 613; 1977, p. 69. Clyne, 1969, pp. 77, 79. Main, 1964, 1967, 1980, p. 27; 1976; 1977, p. 69; 1981, pp. 857, 860, 861, 869 (natural history). New synonymy.

*Megalosara* Rainbow, 1914, p. 205. Type-species by original designation: *Megalosara villosa* Rainbow, 1914, p. 206; holotype ♂ from Enfield, Sydney, NSW (AM, examined). Bonnet, 1957, p. 2749. Main, 1977, p. 171. New synonymy.

*Cantuaria* Hogg, 1902, p. 123 (nom. nov. for *Maoriana* Hogg, preoccupied). (*In part*, New Zealand species only, see Main 1977, p. 72.)

### *Diagnosis*

Carapace low, caput not markedly elevated, sides not markedly rounded but more or less parallel; sometimes hirsute with golden sheen; appendages hirsute, frequently with longitudinal, dark 'decorations' like painted or pencilled streaks. Eyes widely spaced, subrectangular, AME usually large and considerably behind ALE so that sometimes eyes appear almost in 3 rows; ALE and PLE never contiguous; width of group less than twice length. Fovea shallow and very slightly procurved to straight. Chelicerae with pronounced promarginal row of teeth, incomplete retromarginal row; few intermediate teeth; rastellum of long, spine-like teeth, no process. Fang usually without serrated keel. Labium relatively long, truncate, without cuspules; sternum long, relatively narrow between posterior coxae; 3 pairs of small sigilla, posterior pair round and close to margin. Legs with dense, brush-like scopula on palp tarsus and tarsus and metatarsus of legs I and II; few spines; tarsal spines often apical, spines long, tapering. Tarsal claws with several teeth on superior claws of females, at least 4 in males. Abdomen relatively long, parallel-sided; hairy, dark coloured, sometimes with pale transverse dorsal bands; 2 pairs of spinnerets. Tibia of male palp rarely unmodified, usually with median ventral apophysis bearing stout spines, occasionally additional 'hooked' apical apophysis; bulb subspherical to pyriform, embolus medium length, tapering. Tibia I of male usually with apical, bifid apophysis.

### *Distribution and Natural History*

The genus occurs in eastern Australia only, ranging from north of Brisbane (about Gladstone and inland) southwards to T and westward to the Lofty Ranges. It is commoner in coastal regions, i.e. NSW and south-east Q and the Great Dividing Ranges, and less common in southern V.

These spiders generally make tubular, silk-lined burrows in the ground. The tube may extend above the substrate as a flanged collar, which in some species may be pliable and like a 'folding' door, in others, rigid and funnel-like. Occasionally a hinged door may be constructed as in *M. gracilis* (Rainbow & Pulleine). One species, *M. robertsi* (Main & Mascord) (which possibly represents a species complex, i.e. 'superspecies'), constructs a long, aerial tube up to about 30 cm which is attached at the distal end to rocks, tree butts or vegetation (Main and Mascord 1974). *M. ornata* (Rainbow) has a yoke or Y-shaped fork in the upper part of the burrow. Some species have a collapsible silk collar or 'sock' in the burrow, beneath which the spider retreats.

### *Comments*

Many of the New Zealand species attributed by Forster to *Cantuaria* should probably be placed in *Misgolas*.

*Species* (see Appendices 1 and 2)

*Misgolas andrewsi* (Hogg), *M. biroi* (Kulczynski), *M. crispus* (Karsch), *M. elegans* (Rainbow & Pulleine), *M. gracilis* (Rainbow & Pulleine), *M. hirsutus* (Rainbow & Pulleine), *M. maculosus* (Rainbow & Pulleine), *M. mestoni* (Hickman), *M. ornata* (Rainbow), *M. papilliosus* (Rainbow & Pulleine), *M. pulchellus* (Rainbow & Pulleine), *M. rapax* Karsch, *M. robertsi* (Main & Mascord).

Incertae sedis

*Arbanitis villosus* Rainbow, *Arbanitis bradleyi* Rainbow and *Idioctis papuensis* Rainbow are conspecific and belong in *Misgolas*. All nominal species were recorded by Rainbow (1920) from 'Papua'. This locality is generally refuted by present Australian taxonomists. If indeed the specimens came from Australia, validity of the species is in doubt.

## *Misgolas rapax* Karsch

(Figs 112–119, 127–134, 137–141, 201; Table 11)

*Misgolas rapax* Karsch, 1878, p. 823. Type-species of *Misgolas* Karsch, 1878; holotype ♀ from NSW (ZMB, dried, pinned specimen, examined). Simon 1892, p. 116. Bonnet, 1957, p. 2931.

*Megalosara villosa* Rainbow, 1914, p. 206. Type-species of *Megalosara* Rainbow, 1914; holotype ♂ from Enfield, NSW (AM, examined). Bonnet, 1957, p. 2749. Main, 1977, p. 71. New synonymy.

*Dyarcyops ionthus* Rainbow and Pulleine, 1918, p. 107. Holotype ♀ from Burwood, NSW (AM, examined). Bonnet, 1956, p. 1613. Main, 1977, p. 71. New synonymy.

*Arbanitis fuscipes* Rainbow, 1914, p. 210. Holotype ♀ from Willoughby, NSW (AM, examined). Bonnet, 1955, p. 634. Main, 1977, p. 71. New synonymy.

*Arbanitis montanus* Rainbow and Pulleine, 1918, p. 116. Syntypes ♂, ♀ from Jenolan Caves, NSW (AM, examined). Bonnet, 1955, p. 635. Main, 1977, p. 71. New synonymy (tentative).

*Arbanitis chisholmi* Hickman, 1933, p. 212. Holotype ♀, from Comboyne, NSW (AM, examined). Bonnet, 1955, p. 634. Main, 1977, p. 71. New synonymy.

*Dyarcyops melancholicus* Rainbow and Pulleine, 1918, p. 106. Syntypes ♀, ♂ from Clifton Gardens, NSW (AM, ♀ ♂, examined; SAM, ♀ labelled '*Arbanitis melancholicus*', examined). Bonnet, 1956, p. 1613. Main, 1977, p. 71. New synonymy.

*Dyarcyops fuscipes* (Rainbow): Main, 1964, 1967, 1980, p. 27; 1976, pp. 67, 84, 85 (natural history); 1977, p. 71. Clyne, 1969, p. 79. Mascord, 1970, p. 12.

**Table 11. Leg measurements of *Misgolas rapax* Karsch**

Dimensions are for the female (holotype of *Arbanitis fuscipes* Rainbow) with those for only the first and fourth legs of the male (holotype of *Megalosara villosa* Rainbow) in parentheses. Leg formula: 4/2·4(3·36), 1/2·07(3·05), 2/1·8, 3/1·6. Width of patella I at knee, 1·9(1·4); tibial index, 19·0(14·14). Width of patella IV at knee, 1·9(1·5); tibial index, 15·8(13·27)

| Limb | | Length (mm) | | | | | |
|---|---|---|---|---|---|---|---|
| | | F | P | Ti | M | Ta | Total |
| Palp | | 6·2 | 5·0 | 3·7(4·5) | — | 4·5 | 19·4 |
| Leg | I | 8·0(8·0) | 4·9(4·2) | 5·1(5·7) | 4·6(5·8) | 2·3(4·1) | 24·9(27·8) |
| | II | 7·2 | 4·5 | 4·3 | 4·0 | 2·2 | 22·9 |
| | III | 5·8 | 4·2 | 3·6 | 4·0 | 2·3 | 19·9 |
| | IV | 8·0(7·9) | 5·2(4·1) | 6·8(7·2) | 6·3(7·0) | 2·7(4·4) | 29·0(30·6) |

*Diagnosis*

Large spiders, females frequently attain carapace length of at least 12·0, males at least 9·0. Carapace with pile of fuscous hairs especially on caput; line of few bristles between eyes and fovea in female; abdomen also with dorsal fuscous sheen. Internal genitalia as in Fig. 201. Male with characteristic palpal tibial structure (Figs 131–132) of heavily spinose median process and upper hooked process. Tibia I with spined bifid, apical apophysis (Fig. 134). Burrow with open entrance. Tarsus I of both female and male generally without spines (Figs 128, 130). Male with scopula on all tarsi.

*Holotype* ♀, Misgolas rapax (Figs 112–114)

The type has not been illustrated previously and early authors (e.g. Simon 1889, p. 179; 1892, p. 116) doubted the distinction from *Arbanitis*. The following notes therefore appear pertinent.

Condition of type: dried, pinned specimen very shrivelled and difficult to distinguish many features.

Carapace length 11.0. *Carapace.* Long, narrow, almost straight sides (Fig. 112). Caput low with down of fuscous hair; line of bristles between eyes and fovea. Fovea very slightly procurved. *Eyes* (Fig. 113) set back from edge of carapace, slightly raised. *Chelicerae* with rastellum of long, tapering spines (Fig. 114). *Labium* without cuspules. *Palp* tarsus and tarsi and metatarsi of anterior *legs* with dense scopula but few spines; patella III with 3 stout prolateral spines. *Abdomen* densely hirsute (very shrivelled), 2 pairs of spinnerets.

*Female* (holotype, *Arbanitis fuscipes* Rainbow) (Figs 116–119)

Rainbow (1914) described the female holotype and a full description is not given here.

Carapace length 12·00, width 9·5 (Rainbow cited 12·2 and 9·9, respectively). *Eyes.* Group 1·3 long, anterior width 1·85, posterior width 2·0. *Carapace* with soft down of fuscous hairs. Fovea shallow, very slightly procurved. *Abdomen* dark brown with faint, yellow, dorsal marks. *Chelicerae.* Paturon furrow with 8 (9 left) teeth on promargin, 9 on retromargin, about 4 basal intermediate teeth. Rastellum of long tapering teeth above base of fang, no process. *Labium* without cuspules. *Maxillae.* About 30 antero-ental cuspules. *Sternum.* Small round sigilla, posterior pair close to margin. *Legs.* Very dense scopula on palp tarsus, tarsi and metatarsi I and II. *Tarsal claws.* Generally with 2 large basal teeth and 1 small upper tooth on superior claws. *Spines.* Palp: tarsus v 1?; tibia pv 5 (bristles and spines), rv 5. Leg I: tarsus 0; metatarsus v 2-1-2; tibia v 6. Leg II: tarsus v 2; metatarsus v 2-1-3; tibia v 6 spine-like bristles. Leg III: tarsus v 5; metatarsus v 8, pd 3, rd 3; tibia v 5 bristles, p 1, r 2; patella p 3. Leg IV: tarsus v 6; metatarsus v 7, r 2; tibia v bristles. *Abdomen.* Dark brown with faint, yellow, dorsal marks.

*Male* (holotype, *Megalosara villosa* Rainbow) (Figs 131–134, 137–141)

*Colour.* Dark reddish brown carapace and appendages, silvery pile of hairs on carapace; abdomen with dense pile of dark brown hair but without dorsal pattern. *Carapace.* Length 9·1, width 7·5. Marginal bristles but no spines. Fovea almost straight. About 15 bristles (rubbed off) in median line between eyes and fovea. *Eyes.* Eye-group, length 0·9, width 1·6. *Chelicerae.* Pronounced rastellum of long teeth. Paturon groove with 12 (11 left) promarginal teeth, 16 (about 15 left) on retromargin, about 5 intermediate teeth indistinct from retromargin teeth. *Labium.* Length 1·1, width about 1·3. *Maxillae.* About 30 tiny cuspules. *Sternum.* Length 4·9, width 3·6, small round sigilla. *Legs.* Scopula complete on tarsi of all legs and metatarsi I and II; incomplete on metatarsus III and apical ½ only of metatarsus IV. *Tarsal claws.* Comb of 7 or 8 teeth on superior claws. *Spines.* Palp tarsus with dense cluster of short stout dorsal spines. Leg spines generally sparse and many broken off. No spines on any tarsi (but some other specimens with few tarsal spines); no spines on metatarsi I and II, some present on metatarsi III and IV. Tibia I, pv 1 apical, rv 4. Tibia II, pv 1 apical, rv 4. Leg III: metatarsus v some present, d some present; tibia v about 4; patella p 6 or 7 (broken off). Leg IV: metatarsus v some present. *Abdomen.* Shrivelled and mis-shapen. Dense pile of hairs on dorsum, no pattern. *Palp* (Figs 131–133). Tarsus dorsally with dense cluster of stout tooth-like spines. Tibia with heavily spined, pronounced lower apophysis and apical hook-like apophysis with short, tooth-like spines and terminal tuft of hairs; brush of long hairs on curvature of depression below 'hook'. Tibia I with apical bifid apophysis; upper process with 2 stout tooth-like spines, lower process with 4 long tapering spines (Fig. 134).

*Distribution and Natural History*

The species is abundant in the Sydney area and generally throughout the Hawkesbury sandstone region to which it appears to be more or less confined. It occurs in mixed eucalypt forest, generally in semi-open rather than dense understory. The burrow is a simple tube with a wide funnel-like collar entrance supported above the substrate by grass or vegetation; the opening is usually slightly oblique. When feeding, the spider sits with its anterior legs projecting over the rim of the funnel. The species frequently occurs in banks and slopes and readily adapts to roadside banks and garden landscapings. Males wander during late summer and autumn.

*Comments*

The type of *Misgolas rapax* is a dried, pinned specimen and is only briefly described. However, sufficient diagnostic features are distinguishable on the specimen to identify it with *Arbanitis fuscipes*. Although the male of *A. fuscipes* has not been formally described, Musgrave (1931, 1935) and Main (1964) illustrated it, the latter as *Dyarcyops fuscipes*. However, numerous male specimens from the Sydney region are, by association, attributed to this species. The males of *Megalosara villosa*, *A. montanus* and *D. melancholicus* can also be attributed to *fuscipes*. Finally, I have collected males and females of *A. chisholmi* from the type-locality and they agree with *fuscipes*.

Main (1977) synonymized *Megalosara villosa*, *Arbanitis chisholmi*, *Arbanitis montanus* and *Dyarcyops ionthus* with *Arbanitis fuscipes* in the combination *Dyarcyops fuscipes* (new combination, Main 1967). At the same time, *Dyarcyops melancholicus* was tentatively synonymized with *fuscipes*. All these species are here synonymized with *M. rapax*. A diagnosis of *M. rapax* is based on specimens additional to the type and including types of the six species synonymized. The name *Arbanitis fuscipes*, attributed to the commonest 'trapdoor spider' in the Sydney area, has been used more frequently than any other. Nevertheless, *M. rapax* has priority and in the terms of the International Code of Zoological Nomenclature should be used. Simon (1889, 1892) recognized an affinity of *Misgolas* and *Hermeas* with *Arbanitis* but did not unequivocally synonymize either genus with *Arbanitis*.

### ***Misgolas crispus*** (Karsch), comb. nov.

(Figs 120–122)

*Hermeas crispus* Karsch, 1878, p. 823. Type-species of *Hermeas* Karsch, 1878; holotype ♀ from T (Van Diemen's Land) (ZMB, examined, dry pinned specimen). Simon, 1892, p. 116. Bonnet, 1957, p. 2168.

*Arbanitis scaurus* Hickman, 1927, p. 57; syntypes ♂, ♀ from Westmoreland Falls, Mole Creek, T (QVM, not seen). Bonnet, 1955, p. 636. New synonymy (tentative).

*Dyarcyops scaurus* (Hickman): Main, 1977, p. 71.

*Diagnosis*

Carapace sparsely hairy, in female thin cover of yellow adpressed hair. Eye-group of female $1\frac{2}{3}$ as wide as long; tarsus 1 without spines, tarsus II with 2 small spines. Male tarsi I and II without spines; tibia I with double, spined apophysis. Palp tibia short, dilated; deep depression with spines on upper area and lower process tarsus without spines; embolus short, flat, i.e. not markedly twisted and tapering to point.

*Holotype* ♀, Hermeas crispus *Karsch* (Figs 120–122)

The type has not been illustrated previously and early authors, e.g. Simon (1889, p. 179; 1892, p. 116), were doubtful whether *Hermeas* was distinct from *Arbanitis*. The following notes are therefore given.

Dried, shrivelled pinned specimen; right palp and left legs II and III missing.

Carapace length 9·0, width 7·0, sparse hairs on carapace. Fovea shallow, slightly procurved (pin through it). Eyes set back from caput margin. Chelicerae with rastellum of

several series of long teeth; inner margin of furrow with large teeth; outer margin with only few basal teeth. Sternum with small round posterior sigilla away from margin. Dense scopula on palp tarsus and tarsi and metatarsi of legs I and II; very few spines on anterior legs; patella III with 2 or 3 prolateral spines; metatarsus IV with long tapering ventral spines. Abdomen shrivelled, hairy.

*Distribution and Natural History*

*M. crispus* is confined to T. Hickman (1927) noted that the female builds a silk-lined, open burrow in the ground or in rotten logs or tree-fern stumps.

*Comments*

Hickman (1927) has described in detail female and male specimens of *Arbanitis scaurus*. I compared the type of *Hermeas crispus* with a female specimen of *Arbanitis scaurus* (BMNH, donated by Professor Hickman) and the two species appear to be conspecific.

### ***Misgolas andrewsi*** (Hogg), comb. nov.

(Figs 123–126, 135, 136, 142–144, 202; Table 12)

*Dyarcyops andrewsi* Hogg, 1902, p. 130. Type-species of *Dyarcyops* Hogg, 1902; 2 syntypes ('cotypes') from Mt Compass, SA (BMNH, examined; designated lectotype ♀, juvenile paralectotype); syntype ♀ (SAM, examined; designated paralectotype). Roewer, 1942, p. 176. Bonnet, 1956, p. 1613. Main, 1977, pp. 69, 71 (p. 69, incorrectly referred to BMNH specimen as 'holotype').

**Table 12. Leg measurements of *Misgolas andrewsi* (Hogg)**

Measurements are for the female (BYM 1954/543, from Mt Compass, SA) with those for the male ('allotype', nec paratype, of *Dyarcyops andrewsi* Hogg) in parentheses. Leg formula: 1/2·48(3·12), 4/2·16(3·03), 2/2·00(2·72), 3/1·66(2·2). Width of patella I at knee, 1·3(1·4); tibial index, 15·1(14·28). Width of patella IV at knee, 1·5(1·4); tibial index, 16·3(14·73)

| Limb | | Length (mm) | | | | | |
|---|---|---|---|---|---|---|---|
| | | F | P | Ti | M | Ta | Total |
| Palp | | 4·6(4·4) | 3·0(2·3) | 3·3(4·2) | — | 3·4(1·8) | 14·3(12·7) |
| Leg | I | 6·8(7·8) | 4·1(4·3) | 4·5(5·5) | 3·7(6·0) | 2·3(3·0) | 21·4(26·6) |
| | II | 5·3(6·8) | 3·7(3·8) | 3·4(4·7) | 3·3(5·1) | 2·0(2·8) | 17·7(23·2) |
| | III | 4·0(5·2) | 3·0(3·0) | 2·2(3·2) | 3·1(4·5) | 2·0(2·8) | 14·3(18·7) |
| | IV | 6·3(7·0) | 3·8(3·7) | 5·4(5·8) | 4·8(6·0) | 2·3(3·3) | 18·6(25·8) |

*Diagnosis*

Medium to large spiders, carapace length of males and females at least 8·0. Eye-group width about 1½ times length; line drawn behind ALE passes in front of AME; posterior row procurved in front and straight behind (see Hogg, 1902, pl. 13, fig. 10) (Figs 123 and 126); few ocular bristles and no line of bristles between eyes and fovea. Carapace not hirsute. Anterior legs with relatively few ventral spines. 1st legs (female and male) longer than 4th. Tibia of male palp with apical, more or less straight digital process and medial, pointed protuberance with tooth-like spines continuous over both processes and around depression between them (Fig. 135). Tibia I with spined, bifid apophysis. Nest without door.

*Female* [Mt Compass, SA, 18.xii.1954, B. Y. Main. (BYM 1954/543, SAM N1983442)] (Figs 123–125, 202)

Carapace length 8·6, width 7·2. *Colour.* Reddish brown generally, anterior legs with dark, longitudinal lateral streaks or decorations. *Carapace.* Not hirsute, with few delicate bristles especially on caput. *Eyes.* Eye-group width about 1½ times length; length 0·9,

anterior width 1·5, posterior width 1·45; this is about equivalent to Hogg's statement 'eye space . . . 1½ times as broad as long'. *Chelicerae.* Paturon groove with 7 (8 left) teeth on promargin, 9 on retromargin, about 4 basal intermediate teeth. Hogg cited 8 and 5 on the pro- and retromargin, respectively, and did not mention any intermediate basal teeth. *Labium.* At least twice as wide as long; length 1·0. Separated from sternum by narrow sigilla. *Maxillae.* At least 30 antero-ental cuspules; pronounced antero-ectal process. *Sternum.* Length 5·0, width 4·2, convex behind labium, narrow, with almost parallel sides. *Legs.* Scopula apical on palp tarsus, complete only on tarsus I, reduced on tarsus II and metatarsi I and II. *Trichobothria.* Fewer on anterior legs than on posterior legs; about 7, 11, 15 and 14, respectively, on tarsi I, II, III and IV; 8, 10, 12, 13 on metatarsi; 5–7 in each row on tibia. Some proximal baton-like bothria on tarsi of palp and anterior legs. *Tarsal claws.* Palp, 4 teeth. Superior claws of legs: Leg I, p 2, r 2. Leg II, p 2 large with 2 small teeth between, r 1 large with 1 small tooth above and below. Leg III, p 2, r 3. Leg IV (left; right damaged), p 1 (?), r 1 large with 1 small tooth below. *Spines.* Palp: tarsus pv 2, rv 2; tibia pv 4 + 1 bristle, rv 2 + 2 bristles. Leg I: tarsus v 1; metatarsus pv 2, rv 5. Leg II: tarsus rv 3; metatarsus pv 1 + 2 (apical), rv 4; tibia pv 2, rv 4 and long heavy bristles. Leg III: tarsus v 8; metatarsus v 1-2-3 (apical); tibia v 2-2-2 (bristles), d 2-1-2; patella p 6 short stout spines. Leg IV: tarsus v 11; metatarsus v 10, pd 2 ensiform; tibia v 4 bristles + 2 apical ensiform spines. *Internal genitalia* as in Fig. 202.

*Male* ['allotype', nec paratype, *Dyarcyops andrewsi* Hogg, Crafers, SA, P. G. Kempster, 2.iv.1974. (BYM 1974/2; SAM, N1983441)] (Figs 135, 136, 142–144)

Carapace length 8·5, width 7·5. *Colour.* Reddish brown carapace. Abdomen dark brown with mauvish tinge and faint dorsal mottled pattern. *Carapace.* Not hirsute. Few delicate spines on radiating lines and caput; fine tapering marginal spines. Fovea straight. *Eyes.* Eye-group 1·0 long, 1·6 wide. *Chelicerae.* Rastellum of stout teeth; fang with very fine serrations on keel. Right paturon groove with 8 teeth on promargin, 6 on retromargin and 2 intermediate basal teeth. *Maxillae.* Pronounced antero-ectal lobe, about 50 very fine small cuspules. *Labium.* Length 0·8. Few bristles. Separated from sternum by divided sigilla. *Sternum.* Length 4·6, width 3·9. Posterior sigilla small, suboval. *Legs.* Scopula complete on tarsi I, II, incomplete on metatarsi I and II, none on legs III and IV. *Superior tarsal claws*: Leg I, p 10, r 10. Leg II, p 10, r 12. Leg III, p 8, r 7. Leg IV, p 8 (irregular sizes), r 7. Teeth of claws on 1st legs sinuous comb, proximally beginning prolaterally and retrolaterally (on pro- and retroclaws, respectively) and distally terminating on opposite side of claw (see Fig. 144). *Spines.* Legs heavily spinose; all femurs with tapering spines on dorsum; coxae and trochanters with ring of spines (dorsally pronounced). Leg I: tarsus pv 1, rv 6; metatarsus pv 1 apical, rv 2 apical; tibia pv 2, rv 4. Leg II: tarsus pv 2, rv 11; metatarsus pv 4, rv 9, pd 1; tibia v about 12. Leg III: tarsus v 17, metatarsus v about 17, d about 6; tibia v 9, pd 4, rd 3 + several d; patella p about 6 + stout bristles. Leg IV: tarsus pv about 11, rv about 10; metatarsus v about 14, rd 4; tibia v about 9, rd 3. *Abdomen.* Sparsely hairy, numerous long delicate dorsal spines and short bristles. *Palp* (Fig. 135). Tibia with apical, tangental digital apophysis bearing few spines; tooth-like spines continuous around curvature of depression and onto lower blunt apophysis. Embolus much twisted (Fig. 136). Tarsus lacks dorsal spines. *Tibia I.* With double, spined, apical apophysis.

*Distribution and Natural History*

The species is confined to the Lofty Ranges and possibly the plains in south-eastern SA. The burrow consists of a lightly webbed tube with no door at the entrance. Males run in the autumn. The species represents the farthest west range of the genus, which parallels the geographic range of the funnel web spider *Atrax*. The species appears to be relatively uncommon and few specimens have been collected.

*Comments*

The lectotype, although in spirit, is crumpled and with many hairs and bristles rubbed off, and the integument has lifted away. Hogg (1902) cited 'four females (two not quite adult) . . .'. The larger of the BMNH specimens and presumably that described by Hogg has a carapace length of 10·0, although it was cited by Hogg as 12·0. Because none of the types is in very good condition, measurements and some details lacking from Hogg's description are given here for another specimen collected from the type-locality. The male, previously unknown, is described.

## Genus **Blakistonia** Hogg

(Figs 146–157, 203, 204, 211, 212)

*Blakistonia* Hogg, 1902, p. 131. Type-species by original designation: *Blakistonia aurea* Hogg, 1901; syntypes, ♂ from Lower North Road, Adelaide and 4 ♀ from Blakiston and Mt Lofty Ranges, SA (probably BMNH and SAM, now lost). Roewer, 1942, p. 173. Bonnet, 1955, p. 889. Main, 1976, p. 67 (natural history); 1981, pp. 860, 864 (natural history, distribution).

*Cantuarides* Strand, 1907, p. 8. Type-species by original designation: *Cantuarides exsiccatus* Strand, 1907; syntypes, 4 ♀ from central Australia (SMNS, lost). Main, 1981, p. 863 (as synonym of *Arbanitis*). New synonymy.

*Diagnosis*

Pale tan to brown, carapace glabrous, abdomen usually non-hirsute, may have transverse bands of dark spots. Carapace relatively flat, long, oval; abdomen relatively long. Fovea shallow, slightly procurved. Line of bristles between eyes and fovea. Eyes in 3 groups of 2,2,4; group parallel-sided (Figs 146, 149). Chelicerae with rastellum of long, spine-like teeth, with process. Teeth on both margins of cheliceral furrow, few intermediate basal teeth. Labium relatively long, usually with anterior cluster of long, pointed cuspules (may be absent in male). Maxillae with antero-ental group of cuspules. Sternum not markedly broad between 3rd coxae; posterior sigilla relatively small, round to oval, away from margin. Anterior pairs of legs and palps with dense scopula. Heavy spines on palp tarsus and tarsi and metatarsi I and II; those on tarsi of legs more or less in apical group. Superior tarsal claws with 1–3 (1 large) teeth. Usually few baton-like bothria on at least palp tarsus. Male palp with median spined process and apical cup-like depression on tibia; tibia I with bifid apophysis. 2 pairs of spinnerets.

*Distribution and Natural History*

The geographic focal area of the genus is the southern central part of the continent, i.e. the Flinders Ranges and the York and Eyre Peninsulas. The genus occurs less abundantly in the central Australian mountain ranges, eastward into V, NSW and south-west Q and westward south of the Nullarbor Plain to west of Norseman.

The spiders occur generally in heavy loam and clay soils where they make plastered, silk-lined burrows closed with thick, plug-like soil and silk doors. Occasionally grass stalks or twigs are attached to the rim like the 'twig-lines' prevalent in the Aganippini.

*Comments*

Although the types of the type-species are lost, a neotype is not designated. The type-species is readily identifiable from Hogg's description and figures. An undescribed species of *Blakistonia* also occurs in the Mt Lofty Ranges but at least the female (male unknown) is unlikely to be confused with adult females of *B. aurea*. Hogg's figures, although adequate for identification of the type-species, are rather sketchy and incomplete, therefore new illustrations of both female and male specimens are included here.

*Species* (see Appendices 1 and 2)

*B. aurea* Hogg, *B. exsiccatus* (Strand), *B. rainbowi* (Pulleine).

## *Blakistonia aurea* Hogg

(Figs 146–157, 203, 204, 211, 212; Table 13)

*Blakistonia aurea* Hogg, 1901, p. 132. Type-species of *Blakistonia*; syntypes, ♂ from Lower North Road, 4 ♀ from Blakiston and Mt Lofty Ranges, SA (probably BMNH and SAM, lost). Roewer, 1942, p. 173. Bonnet, 1955, p. 889. Main, 1964, 1967, 1980, p. 31; 1976, p. 67 (natural history).

*Aganippe villosa* Rainbow and Pulleine, 1918, p. 96. Holotype ♀ from Bridgewater, SA (AM, examined). Roewer, 1942, p. 173. Bonnet, 1955, p. 180. Main, 1957*b*, p. 429 (tentatively synonymized with *Aganippe smeatoni* Hogg). New synonymy.

### *Diagnosis*

As for the genus, abdomen pale with dorsal banded pattern comprising series of dark spots. Internal genitalia, pair of terminally dilated lobes enclosed in delicate sac-like vesicles (Figs 203, 204). Male palp with stout dorsal spines on tarsus (Fig. 152); spinules (or cuspules) may be absent from labium. Door of burrow with extended hinge line, longer than diameter of door.

*Female* [Clare, 19·3 km N., SA, 11.viii.1955, B. Y. Main. (BYM 1955/612)]

Carapace length 7·8, width 6·5. Fovea slightly procurved and shallow. *Eyes*. Eye-group 1·1 long, 1·5 wide, sides parallel. *Chelicerae*. Groove of paturon with 6 promarginal and retromarginal teeth, about 4 basal intermediate teeth. *Labium*. About 9 long, pointed cuspules. *Maxillae*. About 15 cuspules on antero-ental angle; antero-ectal angle with very slight process. *Legs*. Dense scopula on palp tarsus and tarsi and metatarsi I and II. *Spines*. Palp: tarsus pv 2, rv 3; tibia pv 6, rv 5. Leg I: tarsus v 7 in apical cluster; metatarsus pv 4, rv 5; tibia pv 3, rv 4. Leg II: tarsus v about 8 in apical cluster; metatarsus pv 4, rv 7; tibia pv 2 apical, rv 3 ensiform + 1 heavy spine. Leg III: tarsus v about 17; metatarsus v about 12, d 2-2-2; tibia v 3 apical, pd 2; patella 5. Leg IV: tarsus v about 18; metatarsus v 13; tibia v 2 apical ensiform spines; patella pd proximal cluster of spinule-like bristles; femur pd apical (distal) cluster of short stout bristles. *Internal genitalia*. As in Figs 203, 204 (BYM 1955/612 and 1954/558). BYM 1954/558, Mt Lofty, 19.xii.1954, B. Y. Main. Carapace length 9·5, width 7·7.

**Table 13. Leg measurements of *Blakistonia aurea* Hogg**

Measurements are for the female (BYM 1955/612) with those for the male (BYM 1978/14) in parentheses. Leg formula: 4/2·46(3·8), 1/2·02(3·47), 2/1·81(3·12), 3/1·37(2·8). Width of patella I at knee, 1·2(1·0); tibial index, 18·33(15·38). Width of patella IV at knee, 1·4(1·1); tibial index, 18·18(16·92)

| Limb | | Length (mm) | | | | | |
|---|---|---|---|---|---|---|---|
| | | F | P | Ti | M | Ta | Total |
| Palp | | 4·3(3·5) | 2·6(1·6) | 2·6(3·1) | — | 3·0(1·5) | 12·5 (9·7) |
| Leg | I | 5·0(6·3) | 3·4(3·3) | 3·2(5·0) | 2·5(5·5) | 1·7(2·5) | 15·8(22·6) |
| | II | 4·4(5·9) | 3·0(3·0) | 2·9(4·4) | 2·3(4·5) | 1·5(2·5) | 14·1(20·3) |
| | III | 3·7(4·7) | 2·3(2·5) | 2·1(3·8) | 2·8(4·7) | 1·8(2·5) | 10·7(18·2) |
| | IV | 5·2(6·4) | 3·6(3·2) | 4·1(6·0) | 4·2(6·1) | 2·1(3·1) | 19·2(24·8) |

*Male* [Torrens Gorge, SA, 22.iii.1978, S. Barker. (BYM 1978/14)]

Carapace length 6·5, width 5·7. Abdomen pale with dark spots in diffuse bands; bristles but no spines on dorsum. *Eyes*. Eye-group 1·15 wide in front, 1·25 behind, length 1·0. *Fovea* shallow, reflexed at edges; with tangental posterior sulcus. *Chelicerae*. Groove with promarginal, retromarginal teeth and basal intermediate teeth. *Labium*. Truncate anteriorly, with cuspules reduced to finely pointed, short bristles. *Maxillae*. Few small cuspules. *Sternum*. Sigilla small and round. *Legs*. Scopula present on tarsi I and II only. *Tarsal claws*. Teeth on superior claws in sinuous line, beginning proximally on outer side of claw and terminating distally on inner side of claw (Figs 156, 157). Leg I, p 7, r 7, Leg

II, p 6, r 9. Leg III, p 5, r 5. Leg IV, p 5, r 5. Usually 1 large tooth with several small proximal and distal teeth. *Spines.* Palp. Dense cluster of stout, stubby spines on dorsum. Leg I: tarsus v 0; metatarsus v 2 apical; tibia rv 3 (and 3 ensiform) 2 apical. Leg II: tarsus v 0; metatarsus v 2-2-1pv-1rv-2 apical; tibia rv 4 (and 3 ensiform) 2 apical (with 2 ensiform between this pair). Leg III: tarsus pv 2, rv 4; metatarsus v 2-2-1pv-1rv-1pv-4 apical, d 2-2-2-; tibia v 3 apical, pd 2, rd 2; patella p 3. Leg IV: tarsus v about 19; metatarsus v about 15; tibia 2 apical; patella pd proximal spinule-like bristle; femur pd distal cluster of spinule-like spines. *Palp.* Tarsus with dorsal cluster of short, stubby spines. Tibia with deep medial depression and large process with stout, pointed spines extending around edge of depression almost to apical region. Embolus short, bent, flanged at tip (Figs 153, 154). *Tibia I.* Apical bifid apophysis, 2 tooth-like spines on upper process, and 2 stout, hooked spines on lower process (Fig. 155).

*Distribution and Natural History*

The species is restricted to the Lofty and Flinders Ranges and adjacent plains, northern part of Eyre Peninsula and eastward to V and NSW borders. The spider's burrow is closed by a thick, inset door with a long hinge-line (longer than diameter of door), which sometimes has a crenulated edge, the crenulations of which interlock with similar indentations in the rim of the burrow, which thus, together, simulate the closure of a clam-shell (Figs 211, 212).

### ***Blakistonia exsiccatus*** (Strand), comb. nov.

*Cantuarides exsiccatus* Strand, 1907, p. 8. Type-species of *Cantuarides* Strand; syntypes 4 ♀ from central Australia (SMNS, lost).

*Comments*

The types were destroyed during the 1939–1945 war (Dr Horst Janus, *in litt.*). Although Main (1981) inferred that *Cantuarides* was a synonym of *Arbanitis*, it is a synonym of *Blakistonia*. Specimens of the latter genus have been collected from central Australia (e.g. Alice Springs environs, in BYM collection), whereas no specimens of *Arbanitis* are known from the central or southern central region of the continent apart from the type of *Armadalia zorodes* Rainbow & Pulleine [= *Arbanitis zorodes*] allegedly from Mt Lofty, SA. Indeed, it is possible that this locality is an error.

Strand noted about six labial cuspules ('spinulen') and strongly procurved anterior eyes (i.e. AME effectively forming a second line), which suggests affinity with *Blakistonia* rather than *Arbanitis*.

Although it is difficult to identify the species with certainty from Strand's description, it seems justifiable to identify specimens of *Blakistonia* collected from Alice Springs as *B. exsiccatus*. However, a neotype is not designated at present, as there is unlikely to be confusion of this species with *B. aurea*. The species will be discussed further, along with descriptions of new species, in an account of *Blakistonia* (Main, unpublished data).

## Subfamily **HOMOGONINAE** (Rainbow)

Homogoneae Rainbow, 1914, p. 188. Type-genus by tautonymy: *Homogona* Rainbow, 1914. Roewer, 1942, p. 194; Bonnet, 1956, p. 926; 1957, p. 2233.

Homogoninae Rainbow, 1914: Main, 1983, p. 82.

*Diagnosis*

Large spiders different from most ctenizids by absence of rastellum. Eyes in transverse group of 2 rows. Fovea transverse. Labium relatively long separated from sternum by suture. Sternum with 3 pairs of sigilla. Legs without scopula in female, tarsal scopula in male. Legs of females heavily spined, especially anterior tarsi and metatarsi. 4 pairs of cardiac ostia. 1 or 2 pairs of spinnerets. Males with or without bifid apophysis on tibia 1. Burrow open, or closed by 1 side of collar or weakly hinged door.

*Comments*

Main (1983) elevated the tribe Homogonini to subfamily level and defined it, diagnosed the genus *Homogona*, described the male of *H. pulleinei* Rainbow and described a second species from northern Q.

## Genus **Homogona** Rainbow

(Fig. 208)

*Homogona* Rainbow, 1914, p. 189. Type-species by monotypy: *Homogona pulleinei* Rainbow, 1914, p. 190; holotype ♀ from Lismore, NSW (AM, examined). Roewer, 1942, p. 194. Bonnet, 1957, p. 2233. Main, 1981, pp. 857, 865; 1983, p. 83.

*Diagnosis*

Carapace with convex caput, generally glabrous, may be spinose or sparsely hairy, sides roughly parallel. Fovea deep, may be pit-like. Eyes widely spaced, not tuberculate, group occupies not more than about ⅓ width of caput, anterior row strongly procurved. Chelicerae slightly geniculate, teeth on both margins of furrow. Labium relatively long, truncate, with anterior cuspules or spinules (may be few or absent in male). Patella III with few tooth-like, prolateral spines. Tarsus of palp usually with few proximal, baton-like bothria; normal trichobothria numerous on palp tarsus, in single irregular row on leg tarsi, irregular row on metatarsus and double row on tibia. Legs usually with numerous long, 'clubbed' hairs, i.e. distally curled and slightly dilated, characteristic also of some *Cataxia* species (see Main 1969, fig. 14; 1983, fig. 12). 2 pairs of spinnerets. Burrow with or without door. Male structures very similar to *Cataxia*; palp tibia with large median process bearing stout spines which extend over apical area; tibia I with bifid apophysis. Female internal genitalia pair of terminally dilated, long-trunked vesicles connected at base (Fig. 208).

*Distribution and Natural History*

One species, *H. pulleinei* Rainbow, is found only in north-eastern NSW and south-eastern Q, essentially in the arc of the MacPherson Ranges to as far north as the Bunya Mountains in the west and mountains to the north of Brisbane. *H. cunicularius* Main occurs in the montane area of north Q. There is an unnamed species in V (Main 1985*b*) that was formerly associated with the species here described in the new genus *Neohomogona*. *H. pulleinei* builds shallow burrows closed by a soft flap-like door in humus and forest litter and rotten logs and tree stumps. The burrow of *H. cunicularius* is built in similarly wet, rainforest situations but has a stiff collar-like entrance incorporating litter and debris in the silk. Males mature in late spring and appear to run through the summer into early autumn.

*Species*

*H. pulleinei* Rainbow, *H. cunicularius* Main.

## Genus **Neohomogona** gen. nov.

(Figs 158–186, 205–207, 219–222)

*Type-species*

*Neohomogona bolganupensis*, sp. nov.

*Derivation of Name*

The name indicates affinity with *Homogona*.

*Diagnosis*

Carapace glabrous with few delicate spines and bristles. Caput low. Abdomen dark coloured, sparse hairs, may have thin faint dorsal bands. Eyes in compact group of 2 rows,

slightly raised. Fovea deep, almost straight but irregular, may be very slightly pro- or recurved, latter especially in males. Chelicerae without rastellum, teeth on inner and outer edges of groove. Labium elongate, anteriorly truncate; without cuspules or spinules. Maxillae with antero-ental cuspules. Sternum with 3 pairs of small round to suboval sigilla away from margin. Anterior legs and palp with heavy ventral spines on tarsi, metatarsi and tibia; scopula absent in females, males with thin scopula on tarsi I and II and partial scopula on metatarsi I and II. Trichobothria numerous, in single irregular row on tarsi, single straight row on metatarsi, 2 proximal rows on tibia. No long 'clubbed' hairs on legs. Female palp claw with few basal teeth; superior claws of female with 1–3 teeth, of male with 2–4 teeth. Tibia I of male with or without apophysis. Median spinnerets reduced or absent; may be represented by lobe with group of bristles. Heart with 4 pairs of cardiac ostia. Burrow without door.

*Distribution and Natural History*

The genus is confined to the Porongorup and Stirling Ranges, WA. The spiders have shallow, sparsely lined, open burrows, which are made in damp, shaded situations, in deep litter or sparsely littered ground. If in deep litter, a flanged collar is webbed obliquely over the litter, e.g. in the Porongorup Ranges; if in scattered litter, a palisade of leaves or twigs is made around the opening. Males mature in the autumn when the young also disperse.

*Comments*

The spiders of this genus are similar to *Homogona*, particularly *H. cunicularius* Main. They differ by the more compact eye-group, the reduced or absent median spinnerets and the absence of labial cuspules, and in females by the absence of long, fine clubbed hairs on anterior legs and in males by the absence (in one species) of a tibial apophysis on the first leg. The internal genitalia of females is very similar to that of *Homogona* and distinct from all other Australian Ctenizidae (Figs 205–207). The palisade-like burrow entrance of *N. stirlingi* is similar to the entrance of the burrow of *H. cunicularius*.

*Species*

*N. bolganupensis*, sp. nov., *N. stirlingi*, sp. nov.

### *Neohomogona bolganupensis*, sp. nov.

(Figs 158–164, 169–177, 181–186, 205, 220–222; Table 14)

*Types*

Holotype ♂, track on Nancy's Peak (above Bolganup Dam), Porongorup Range, WA, 19.xii.1955 (moulted to maturity before 9.v.1956), B. Y. Main (BYM 1955/821) (WAM 83/533). Paratype ♀ (allotype), track on Nancy's Peak, (above Bolganup Dam), Porongorup Range, 19.xii.1955 (BYM 1955/804) (WAM 83/534).

*Other paratypes*: 25 ♀ and immatures, Bolganup Creek, Nancy's Peak, Porongorup Range, WA, 19.xii.1955, B. Y. Main [BYM 1955/777, 778, 779 (WAM 83/535), 781, 783, 787–789, 790 (WAM 83/536), 800, 801, 802 internal genitalia dissected (WAM 83/537), 803, 805]. 3 ♀ with young, same data as preceding (BYM 1955/806, 807, 813). 11 ♀ and immatures, locality as preceding, 24.iii.1956, B. Y. Main [BYM 1956/96 ♀ with young, heart dissected, BYM 1956/97, 98 (WAM 83/539), 99–105, 107]. 11 ♀ and immatures, locality as preceding, 6.iv.1957, B. Y. Main [BYM 1957/73 heart dissected, 74, 76 and 78 hearts dissected, 81, 82, 83 (WAM 83/540) heart dissected, 86, 87 heart dissected, 89, 90]. 10 ♀ and immatures, same locality as preceding, July 1957, A. R. Main [BYM 1957/173 (WAM 83/541) heart dissected, 174–176, 177 (WAM 83/542), 178 (WAM 83/543) heart dissected, 179, 182, 183, 184 (WAM 83/544)]. 2 penultimate ♂, data as preceding (BYM 1957/180, 181), both kept some time in laboratory (181 died, destroyed).

*Derivation of Name*

The name refers to the locality Bolganup Creek near which the species has been collected.

*Male* (holotype)

Carapace length 7·3, width 5·8. Yellowish brown generally, dark abdomen. *Carapace.* Low caput, gradual slope to fovea; covered with short delicate spines; marginal spines. Fovea recurved. *Eyes.* Group 0·75 long, anterior width 1·3, posterior width 1·2. ALE 0·35, AME 0·25, PLE 0·25, PME 0·10. AME 0·15 apart, ALE 0·7 apart. Group of short spines in front of eyes. No distinct line of bristles between eyes and fovea. *Chelicerae.* 11 teeth on promargin of groove, 13 or 14 (about 11 left) on retromargin and few basal intermediate teeth difficult to demarcate from retromarginal row. *Labium.* Length 1·1, width

**Table 14. Leg measurements of *Neohomogona bolganupensis*, sp. nov.**

Measurements are for the female allotype with those for the male holotype in parentheses. Leg formula: 4/2·62(4·04), 1/2·29(3·79), 2/1·94(3·33), 3/1·62(2·76). Width of patella I at knee, 1·15(1·2); tibial index, 16·19(12·5). Width of patella IV at knee, 1·2(1·2); tibial index, 14·28(11·42)

| Limb | | Length (mm) | | | | | |
|---|---|---|---|---|---|---|---|
| | | F | P | Ti | M | Ta | Total |
| Palp | | 4·5(4·0) | 2·5(2·0) | 2·7(3·4) | — | 2·8(1·7) | 11·7(11·1) |
| Leg | I | 5·7(7·7) | 3·3(3·4) | 3·8(6·2) | 3·2(6·7) | 1·9(3·7) | 17·9(27·7) |
| | II | 4·8(6·8) | 2·8(3·1) | 3·0(5·2) | 2·8(6·0) | 1·8(3·2) | 15·2(24·3) |
| | III | 3·8(5·6) | 2·2(2·5) | 2·1(3·9) | 2·6(5·2) | 2·0(3·0) | 12·7(20·2) |
| | IV | 5·7(7·9) | 3·1(3·4) | 5·3(7·1) | 4·1(7·5) | 2·3(3·6) | 20·5(29·5) |

1·4, anteriorly truncate; broad complete sigilla separating it from sternum. *Maxillae* with scarcely any antero-ectal lobe; very few antero-ental cuspules. *Sternum.* Length 3·5, width 3·1. Sigilla relatively small, round; posterior pair well away from margin. *Legs.* Scopula on tarsi I and II, few apical hairs on metatarsi I and II; absent on legs III and IV. *Trichobothria.* 9–11, in irregular row on tarsi, 7 or 8 in straight row on metatarsi, 6–8 in each row on tibia. *Tarsal claws.* Superior claws: Legs I and II, 4 teeth on all claws. Leg III, p 4, r 2 + 1 minute. Leg IV, p 4, r 4. *Spines.* Legs heavily spinose, little distinction between spines and heavy bristles. Palp: tibia pv 4 long spine-like bristles (note apophysis, see later); patella d 3 or 4. Leg I: tarsus pv 3 (4 left), rv 4 (5 left); metatarsus v 3 apical; tibia v 2 apical in addition to 2 heavy pv apical, rv 2, pd 3; patella pd 3 apical; femur d heavy spines. Leg II: tarsus pv 6, rv 11; metatarsus v about 13; tibia v about 8; patella pd 3 apical; femur d heavy spines. Leg III: tarsus v about 30; metatarsus about 15; d about 5; tibia v about 9, pd 2, rd 1; patella p 4 long spines; femur heavy d spines. Leg IV: tarsus v about 30; metatarsus about 12; tibia v about 8; femur d heavy spines. *Abdomen.* Non-spinose but with heavy bristles. Transverse bands faintly perceptible on dark greyish brown integument faintly mottled with pale speckles. 1 pair of spinnerets only (Fig. 163). *Palp.* Tibia with large, median process bearing short tooth-like spines (Fig. 169); spines extend to apical area along edge of depression. About 5 long heavy apical spines. Tibia I with bifid apophysis (Fig. 171).

*Female* (allotype)

*Colour.* Carapace and appendages tan brown, abdomen dark mauvish brown with thin pale transverse bands. *Carapace.* Length 7·8, width 5·8. Glabrous, few scattered hairs and delicate marginal bristles; no distinct line of bristles between eyes and fovea. Fovea almost straight, very slightly recurved. *Eyes.* Group almost twice as wide as long; length 0·7, width 1·35. Diameters of eyes: ALE 0·35, AME 0·2, PLE 0·3, PME 0·1. ALE 0·65 apart, AME 0·15 apart. 4 or 5 long bristles in front of eyes. *Chelicerae.* Stout dorsal bristles and spines. Paturon groove with 9 promarginal teeth, 11 (10 left) on retromargin and 1 or 2 small, basal intermediate teeth. *Labium.* Elongate, anteriorly truncate. Length 1·3, width 1·6. Long scattered bristles. Broad complete sigilla separating labium from sternum. *Sternum.* Length

4·1, width 3·6. Anterior sigilla round, away from margin, posterior sigilla suboval away from margin but closer to margin than to midline; scattered bristles. *Legs.* Without scopula. Heavily spinose. *Trichobothria.* Palp, 6 on tarsus, 5 on tibia. Legs: 10–12 on tarsi in irregular double row, 5–8 in single irregular row on metatarsi, 6–9 in each of 2 rows on tibia. All trichobothria increase in length distally; proximal trichobothria on palp tarsus and tarsus I reduced but not baton-shaped. *Tarsal claws.* Superior claws with single large tooth; occasionally with small tooth below. *Spines.* Heavy spines arranged roughly biserially on tarsi and tibia of palp, tarsi, metatarsi and tibia of legs I and II; irregular ventral arrangement on legs III and IV. *Palp*: tarsus pv 8, rv 6; tibia pv about 15, rv 9 — spines extend prolaterally; patella pv 2, pd 1 apical; femur pv 3 apical, d median row. Leg I: pv 6, rv 4; metatarsus pv about 13 extending prolaterally, rv 8; tibia pvd 9, rvd 12; patella pd few; femur d median row. Leg II: tarsus pv 4, rv 1; metatarsus pvd 5, rv 6, pd 2; tibia pvd 3, rvd 5, pd 2; femur median d spines. Leg III: v 7; metatarsus v 10, rd 1, pd 3, rd 1; tibia v 2-2-2, pd 2; patella pd 2; femur d heavy median spines. Leg IV: tarsus v 7; metatarsus v 8; rd 2; tibia v 2-2-2 + ensiform bristles; femur d heavy median spines. *Abdomen.* Mauvish brown with pale dorsal bands; heavy dorsal median bristles, non-hirsute. Median spinnerets reduced or absent (Figs 175, 181–182). *Internal genitalia.* Pair of long, thin-trunked vesicles, slightly dilated distally (Fig. 205).

### *Neohomogona stirlingi*, sp. nov.

(Figs 165–168, 178–180, 206, 207, 219; Table 15)

*Types*

Holotype ♂, Bluff Knoll, base of south face, Stirling Ranges, WA, 5.iv.1957 (moulted to maturity before 14.viii.1957) A. R. Main (BYM 1957/54) (WAM 83/545).

*Paratypes*: (Allotype) paratype ♀, Bluff Knoll, base of south face, Stirling Ranges, 10.vi.1954, B. Y. Main (BYM 1954/220) (WAM 83/546).

*Other paratypes*: 23 ♀, Bluff Knoll, S. base, Stirling Ranges, 8.vi.1954, B. Y. Main [BYM 1954/163 (WAM 83/547) internal genitalia dissected, 165, 172, 174, 180, 199–202, 204, 206, 212, 213, 215, 217, 218 (WAM 83/548), 219, 221–227]; 26 immatures, same data as preceding (BYM 1954/164, 169–171, 173, 175–179, 181, 182, 185, 189, 196–198, 205, 207–211, 214, 216, 229). 14 ♀ and immatures, same locality as above, 5.iv.1957, A. R. Main [BYM 1957/53 heart dissected, 55 (WAM 83/549), 56–58, 59 heart dissected, 60, 62–64, 66–68, 69 (WAM 83/538)]. 1 penultimate ♂, same data as preceding, moulted to maturity before 14.v.1958 (BYM 1957/65).

*Derivation of Name*

The specific name is in recognition of Governor Stirling after whom the Stirling Ranges were named.

*Diagnosis*

Similar to *N. bolganupensis* but smaller and with pronounced spinules on maxillae. Male lacks apophysis on tibia I but has 4 large apical megaspines, 2 contiguous (Fig. 168); spination on carapace of male heavier than in *bolganupensis*. Burrows with palisade or turret of leaves and debris around mouth.

*Male (holotype)*

*Colour.* Bright orange-brown, generally caput dark brown with black spines, chelicerae dark brown; abdomen dorsally dark mauve-brown, almost black (in life), with pale transverse marks, ventrally pale greyish brown. *Carapace.* Length 5·7, width 4·4. Fovea almost straight, slightly recurved. Carapace glabrous with marginal spines and sparsely scattered,

short spines but no hairs. No distinct line of bristles between eyes and fovea. *Eyes.* Low tubercle, close to margin of caput. Length of group 0·65, anterior width 1·1, posterior width 1·0, anterior row procurved, posterior row procurved in front, recurved behind. Diameters of eyes: ALE 0·35, AME 0·2, PLE 0·25, PME 0·1. *Chelicerae.* 8 teeth on promargin, 5 (6 left) on retromargin and 1 small intermediate tooth on right paturon. Outer row extends from base to opposite 3rd tooth from distal end on inner row. Paturon slightly geniculate with proximal depression. Fang with cutting edge but no serrations. *Labium.* Elongate, anteriorly truncate, length 0·7, width 1·1. Separated from sternum by continuous broad sigilla. *Maxillae.* Antero-ental cuspules and scattered spinules. *Sternum.* Relatively

**Table 15. Leg dimensions of *Neohomogona stirlingi*, sp. nov.**

Measurements are for the female allotype with those for the male holotype in parentheses. Leg formula: 4/2·98(3·68), 1/2·28(3·63), 2/2·0(3·15), 3/1·66(2·66). Width of patella I at knee, 0·9(0·8); tibial index, 17·64(11·42). Width of patella IV at knee, 1·0(0·9); tibial index, 14·92(12·16)

| Limb | | Length (mm) | | | | | |
|---|---|---|---|---|---|---|---|
| | | F | P | Ti | M | Ta | Total |
| Palp | | 3·9(3·3) | 1·9(1·5) | 2·4(2·9) | — | 2·6(1·3) | 10·8 (9·0) |
| Leg | I | 4·4(5·8) | 2·5(2·5) | 2·6(4·5) | 2·6(4·9) | 1·6(3·0) | 13·7(20·7) |
| | II | 3·6(5·0) | 2·3(2·2) | 2·3(3·8) | 2·3(4·2) | 1·5(2·8) | 12·0(18·0) |
| | III | 2·8(4·3) | 2·0(1·9) | 1·6(2·7) | 2·0(3·8) | 1·6(2·5) | 10·0(15·2) |
| | IV | 4·5(5·7) | 2·7(2·4) | 4·0(5·0) | 2·9(4·9) | 1·8(3·0) | 15·9(21·0) |

narrow between 3rd coxae. Sigilla round. Length 2·8, width 2·4. *Legs.* Distinct dark markings on pale ground especially on smaller specimens. Few bristles, non-hirsute, glabrous, heavy ventral spines on palp and anterior pairs of legs. *Trichobothria.* Palp with 7 reduced trichobothria on tarsus, 5 on tibia; 8 or 9 in irregular row on leg tarsi, 7 or 8 on metatarsi, and tibia. *Tarsal claws.* Superior claws with 3 teeth in simple comb on 1st 3 pairs of legs, 4 on 4th leg; each claw has proximal projection beneath teeth; median claw small and smooth. *Scopula.* Complete on tarsi I and II, few apical hairs on metatarsi I and II. *Spines.* Numerous spines and heavy bristles, difficult to distinguish. Palp: dorsal spines on femur, 3 or 4 dorsal on patella. Leg I: tarsus pv 2, rv 5; metatarsus v 3 apical; tibia v 4 apical (heavy) 3 + 1 ensiform, pd 4; patella pd 3 apical; femur d spines. Leg II: tarsus pv 3, rv 8; metatarsus v 7 or 8; tibia v 6 or 7, pd 3 d 2 proximal; femur pd 3. Leg III: v about 16 extending pro- and retrolaterally; metatarsus v about 9, d 1-2; tibia v about 7, pd 3, d about 5; patella pd 3; femur d spines. Leg IV: tarsus v about 15 extending pro- and retrolaterally; metatarsus v about 8 (some ensiform); tibia v about 7 (some ensiform); femur d spines. *Abdomen.* Dorsally with long, delicate spines. 1 pair of spinnerets only; group of 4 or 5 short bristles may represent site of median spinnerets. *Palp* (Fig. 167). Tibia with spined apophysis, small scattered tooth-like spines increasing in length proximally around retrolateral edge of depression; about 4 large apical spines (5 or 6 in paratype). *Tibia I* with no apophysis; apically with 2 contiguous prolateroventral megaspines and 2 widely spaced retroventral spines (Fig. 168).

*Female* (allotype)

*Colour.* Generally brownish with flecks on legs; abdomen mauvish brown with transverse pale bands. *Carapace.* Length 6·0, width 4·5. Fovea slightly procurved. Few spinule-like bristles scattered on caput and around margin. No line of bristles between eyes and fovea. *Eyes.* Low tubercle; length of group 0·6, anterior width 1·4, posterior width 1·1. Anterior row procurved, posterior row procurved in front, recurved behind. Diameters of eyes: ALE 0·4, AME 0·2, PLE 0·25, PME 0·1. Stout bristles in front of eyes. *Chelicerae.* Paturon groove with 7 teeth on promargin, 8 on retromargin and 1 intermediate. Outer row extends from base to opposite 3rd tooth from distal end on inner row. *Labium.* Length 1·0, width 1·4. Separated from sternum by continuous sigilla. Elongate, anteriorly slightly indented. *Maxillae.* Pronounced antero-ectal process (Fig. 179). Antero-ental cuspules and scattered heavy spinules. *Sternum.* Length 3·2, width 2·5. Sigilla small, round; posterior pair

suboval away from margin. *Legs.* Scopula absent. Heavy ventral spines and scattered heavy bristles; generally glabrous and without hairs. *Trichobothria.* Some proximal trichobothria reduced but not 'baton-like'. 9–11 in irregular line on tarsi, 8 on metatarsi; tibia I with 5 in prodorsal line, 1 in retro line; tibia II and III with 3 in each line; tibia IV with 5 in prodorsal, 4 in retro line. *Tarsal claws.* Superior claws with 1 large tooth with small tooth beneath it on 1st 3 pairs of legs; leg IV with 2 symmetrical large teeth on retroclaw, 1 large tooth with minute distal tooth on proclaw. Palp with 1 large and 1 minute proximal tooth. *Spines.* Palp: tarsus pv 7, rv 5; tibia pvd 12, rvd 5; femur and patella with delicate spines. Leg I: pv 5, rv 3; metatarsus pv about 11, rv 6; tibia pv 2, rv 5 (2 ensiform), pd 2; patella pd 1 apical; femur median d line. Leg II: tarsus pv 5, rv 2; metatarsus pv 4, rv 5; pd 1; tibia pv 1 apical, rv 4; femur d median line. Leg III: tarsus v 5; metatarsus v 6, d 3; tibia v 2-2-2 (some ensiform); patella p 3; femur d bristles. Leg IV: tarsus v 5; metatarsus v 8; tibia v bristles only; femur d bristles only. *Abdomen.* Median spinnerets rudimentary, represented by minute, bristle-bearing lobes (Fig 180). *Internal genitalia.* Pair of long, thin-stemmed vesicles with slight terminal swelling; connected basally by broad atrium [Fig. 206, paratype BYM 1954/163 (WAM 83/547)]. The Mt Hassell specimens are tentatively included in the species although the spermathecal vesicles are rather shorter and relatively stouter (Fig. 207, BYM 1953/180) than in the Bluff Knoll specimen.

*Distribution and Natural History*

The species is confined to the Stirling Ranges, WA. To date, populations have been located only at the south base of Bluff Knoll and in depressions on the south face near the base of the rocky bluff below the summit of Mt Hassell. Spiders of both populations construct a palisade of silk-bound debris around the mouth of the burrow. These are generally sited in open, lightly littered ground (rather than dense eucalypt litter as with *N. bolganupensis*). The palisades may project several centimetres above the ground and when incorporating fragments of black-boy (*Xanthorrhoea*) 'leaves' are very conspicuous. Males mature in the autumn.

*Other Material Examined*

5 ♀, Mt Hassell, below bluff of summit, Stirling Ranges, WA, 7.vi.1953, B. Y. Main (BYM 1953/179, 180 internal genitalia dissected, 181, 183, 187). 13 ♀ and immatures, Mt Hassell, 426 M., Stirling Ranges, 4.iv.1957, A. R. Main (BYM 1957/28, 29, 31, 32, 35–43); 2 penultimate ♂, same data as preceding, moulted in laboratory before 30.iii.1958, fragments only, retrieved from burrows (BYM 1957/30, 33).

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**Appendix 1**

Nominal genera and species of Ctenizidae, including genera and species originally placed in other families, and their synonymies.

*AGANIPPE* Cambridge, 1877, p. 28

*Aganippe bancrofti* Rainbow & Pulleine, 1918, p. 95. Transferred to Barychelidae, generic status undecided. Nec *Aganippe bancrofti* (Rainbow, 1914), comb. nov., transferred from *Blakistonia*

*Aganippe berlandi* Rainbow, 1914, p. 199. Main (1957*b*) synonymized with *Aganippe smeatoni* Hogg, here reinstated

*Aganippe cupulifex* Main, 1957, p. 436. See Main (1957*b*)

*Aganippe latior* Cambridge, 1877, p. 29 = *Eucyrtops latior* (Cambridge): Pocock, 1897; Main, 1957*b*

*Aganippe modesta* Rainbow & Pulleine, 1918, p. 98. Main (1957*b*) synonymized it with *Aganippe smeatoni* Hogg, here reinstated

*Aganippe occidentalis* Hogg, 1903, p. 309

*Aganippe ornata* Rainbow & Pulleine, 1918, p. 99 = *Idioctis ornata* Rainbow (see Main 1977) = *Misgolas ornata* (Rainbow, 1914), comb. nov. Note Main (1976, 1977) placed *Idioctis ornata* in *Dyarcyops* thus = *Dyarcyops ornata* (Rainbow); *Dyarcyops* here synonymized with *Misgolas*

*Aganippe pelochroa* Rainbow & Pulleine, 1918, p. 100. Main (1957*b*) synonymized it with *Aganippe smeatoni* Hogg, here reinstated

*Aganippe pulleinei* Hogg, 1902, p. 128 = *Aganippe subtristis* (Cambridge): Main, 1957*b*

*Aganippe rainbowi* Pulleine, 1919, p. 74 = *Blakistonia rainbowi* (Pulleine), comb. nov. Possibly = *Blakistonia aurea* Hogg

*Aganippe raphiduca* Rainbow & Pulleine, 1918, p. 93

*Aganippe robusta* Rainbow & Pulleine, 1918, p. 97. Main (1957*b*) synonymized it with *Aganippe subtristis* Cambridge, here reinstated

*Aganippe smeatoni* Hogg, 1902, p. 126

*Aganippe simpsoni* Hickman, 1944, p. 22. Main (1957*b*) synonymized it with *Aganippe occidentalis* Hogg, here reinstated

*Aganippe subtristis* Cambridge, 1877, p. 28

*Aganippe tasmanica* Hickman, 1928, p. 58 = *Arbanitis tasmanica* (Hickman): Main, 1957*b*. Main (1981) inferred that the species belonged in *Cantuaria* Hogg; *Cantuaria* here synonymized with *Arbanitis*, following Todd (1945) although Forster (1968) retained *Cantuaria*

*Aganippe villosa* Rainbow & Pulleine, 1918, p. 96 = *Blakistonia aurea* Hogg. New synonymy

*Aganippe whitei* Rainbow, 1915, p. 774 = *Anidiops manstridgei* Pocock: Main, 1957*b*. Synonymy doubtful, may be valid species of *Anidiops*

*ALBANIANA* Rainbow & Pulleine, 1918, p. 122 = *ARBANITIS* Koch. New synonymy

*Albaniana flavomaculata* Rainbow & Pulleine, 1918, p. 125 = *Arbanitis flavomaculatus* (Rainbow & Pulleine): Main (1976); = *Arbanitis inornatus* (Rainbow & Pulleine). New synonymy and comb. nov. Not *Arbanitis inornatus* Rainbow & Pulleine, 1918 = *Cataxia maculata* Rainbow

*Albaniana inornata* Rainbow & Pulleine, 1918, p. 122 = *Arbanitis inornatus* (Rainbow & Pulleine), comb. nov.

*Albaniana ornata* Rainbow & Pulleine, 1918, p. 123 = *Arbanitis ornatus* (Rainbow & Pulleine), comb. nov.

*Albaniana villosa* Rainbow & Pulleine, 1918, p. 124 = *Arbanitis variabilis* (Rainbow & Pulleine). New synonymy

*ANIDIOPS* Pocock, 1897, p. 114

*Anidiops manstridgei* Pocock, 1897, p. 114

*ARBANITIS* Koch, 1874, p. 491, nom. nov. for *Pholeuon* Koch, preoccupied

*Arbanitis bradleyi* Rainbow, 1920, p. 80 = *Arbanitis villosus* Rainbow = *Misgolas villosus*

(Rainbow), comb. nov. Main (1977) placed it in *Dyarcyops* [= *Dyarcyops villosus* (Rainbow)], here synonymized with *Misgolas*

*Arbanitis chisholmi* Hickman, 1933, p. 212 = *Misgolas rapax* Karsch. New synonymy. Main 1977 synonymized it with *Arbanitis fuscipes* Rainbow as *Dyarcyops fuscipes* (Rainbow), here also synonymized with *Misgolas rapax*

*Arbanitis elegans* Rainbow & Pulleine, 1918, p. 115 = *Misgolas elegans* (Rainbow & Pulleine), comb. nov. Main (1977) transferred it to *Dyarcyops*, here synonymized with *Misgolas*

*Arbanitis festivus* Rainbow & Pulleine, 1918, p. 111

*Arbanitis fuscipes* Rainbow, 1914, p. 210 = *Misgolas rapax* Karsch. New synonymy. Main (1977) transferred it to *Dyarcyops*, which is here synonymized with *Misgolas*

*Arbanitis gracilis* Rainbow & Pulleine, 1918, p. 110 = *Misgolas gracilis* (Rainbow & Pulleine), comb. nov. Main (1977) transferred it to *Dyarcyops,* here synonymized with *Misgolas*

*Arbanitis hirsutus* Rainbow & Pulleine, 1918, p. 116 = *Misgolas hirsutus* (Rainbow & Pulleine), comb. nov. Main (1977) transferred it to *Dyarcyops*, here synonymized with *Misgolas*

*Arbanitis inornatus* Rainbow & Pulleine, 1918, p. 119 = *Cataxia maculata* Rainbow: Main, 1969

*Arbanitis maculipes* Hogg, 1903, p. 311 = *Arbanitis annulipes* (C. Koch, 1842): Musgrave, 1948

*Arbanitis mestoni* Hickman, 1928, p. 162 = *Misgolas mestoni* (Hickman), comb. nov. Main (1977) transferred it to *Dyarcyops*, here synonymized with *Misgolas*

*Arbanitis montanus* Rainbow & Pulleine, 1918, p. 116 = *Misgolas rapax* Karsch (tentatively). New synonymy. Main (1977) synonymized it with *Arbanitis fuscipes* Rainbow as *Dyarcyops fuscipes* (Rainbow), which is here synonymized with *Misgolas rapax*

*Arbanitis papilliosus* Rainbow & Pulleine, 1918, p. 188 = *Misgolas papilliosus* (Rainbow & Pulleine), comb. nov. Main (1977) transferred it to *Dyarcyops*, here synonymized with *Misgolas*

*Arbanitis pulchellus* Rainbow & Pulleine, 1918, p. 114 = *Misgolas pulchellus* (Rainbow & Pulleine), comb. nov. Main (1977) transferred it to *Dyarcyops*, here synonymized with *Misgolas*

*Arbanitis pulchra* Rainbow & Pulleine, 1918, p. 86, nomen nudum = *Misgolas pulchellus* (Rainbow & Pulleine)

*Arbanitis scaurus* Hickman, 1927, p. 57 = ?*Misgolas crispus* (Karsch). New synonymy, comb. nov. Main (1977) transferred it to *Dyarcyops*, here synonymized with *Misgolas*

*Arbanitis similaris* Rainbow & Pulleine, 1918, p. 112

*Arbanitis villosus* Rainbow, 1920, p. 78 = *Misgolas villosus* (Rainbow), comb. nov. Main (1977) transferred it to *Dyarcyops*, here synonymized with *Misgolas*. Specific status doubtful, recorded from Papua, which may be in error, in which case possibly synonymous with an Australian species

*ARMADALIA* Rainbow & Pulleine, 1918, p. 129 = *ARBANITIS* Koch. New synonymy

*Armadalia ornata* Rainbow & Pulleine, 1918, p. 129 = *Albaniana ornata* Rainbow & Pulleine, 1918, p. 123, new synonymy = *Arbanitis ornatus* (Rainbow & Pulleine), comb. nov.

*Armadalia pallida* Rainbow & Pulleine, 1918, p. 132 = *Cataxia pallida* (Rainbow & Pulleine), comb. nov.

*Armadalia setosa* Rainbow & Pulleine, 1918, p. 130 = *Arbanitis inornatus* (Rainbow & Pulleine). New synonymy

*Armadalia zorodes* Rainbow & Pulleine, 1918, p. 131 = *Arbanitis zorodes* (Rainbow & Pulleine), comb. nov.

*BANCROFTIANA* Rainbow & Pulleine, 1918, p. 127 = *ARBANITIS* Koch. New synonymy

*Bancroftiana speciosa* Rainbow & Pulleine, 1918, p. 127 = *Arbanitis ornatus* (Rainbow & Pulleine). New synonymy

*BLAKISTONIA* Hogg, 1902, p. 131
*Blakistonia aurea* Hogg, 1902, p. 132
*Blakistonia bancrofti* Rainbow, 1914, p. 203 = *Aganippe bancrofti* (Rainbow), comb. nov. Not *Aganippe bancrofti* Rainbow & Pulleine, 1918 (in Barychelidae, generic status undecided)
*CANTUARIA* Hogg, 1902, p. 123 = *ARBANITIS* Koch: Todd, 1945. Forster (1968) and Main (1981) retained *Cantuaria*, here regarded as synonym of *Arbanitis*
*Cantuaria hoggi* Simon, 1908, p. 361 = *Arbanitis hoggi* (Simon): Main, 1967
*CANTUARIDES* Strand, 1907, p. 8 = *BLAKISTONIA* Hogg. New synonymy
*Cantuarides exsiccatus* Strand, 1907, p. 8 = *Blakistonia exsiccatus* (Strand), comb. nov.
*CATAXIA* Rainbow, 1914, p. 222
*Cataxia babindaensis* Main, 1969, p. 203
*Cataxia eungellaensis* Main, 1969, p. 205
*Cataxia maculata* Rainbow, 1914, p. 223
*Cataxia spinipectoris* Main, 1969, p. 201
*Cataxia tetrica* Rainbow & Pulleine, 1918, p. 133 = *Cataxia maculata* Rainbow: Main, 1969
*CONOTHELE* Thorell, 1878, p. 303
*Conothele arboricola* Pocock, 1898, p. 101
*Conothele doleschalli* Thorell, 1881, p. 237
*CTENIZA* Latreille, 1829, p. 230
*Cteniza malayana* Doleschall, 1859, p. 5 = *Conothele malayana* (Doleschall): Thorell, 1878. Records from Australia (Rainbow 1907, 1912; Main 1957*a*) doubtful identity
*DYARCYOPS* Hogg, 1902, p. 130 = *MISGOLAS* Karsch. New synonymy
*Dyarcyops andrewsi* Hogg, 1902, p. 130 = *Misgolas andrewsi* (Hogg), comb. nov.
*Dyarcyops biroi* Kulczynski, 1908, p. 435 = *Misgolas biroi* (Kulczynski), comb. nov.
*Dyarcyops ionthus* Rainbow & Pulleine, 1918, p. 107 = *Misgolas rapax* Karsch. New synonymy. Main (1977) synonymized it with *Arbanitis fuscipes* in combination *Dyarcyops fuscipes* (Rainbow), here synonymized with *Misgolas rapax*
*Dyarcyops maculosus* Rainbow & Pulleine, 1918, p. 108 = *Misgolas maculosus* (Rainbow & Pulleine), comb. nov.
*Dyarcyops melancholicus* Rainbow & Pulleine, 1918, p. 106 = *Misgolas rapax* Karsch. New synonymy. Main (1977) synonymized it with *Arbanitis fuscipes* in combination of *Dyarcyops fuscipes* (Rainbow), here synonymized with *Misgolas rapax* Karsch
*Dyarcyops robertsi* Main & Mascord, 1974, p. 17 = *Misgolas robertsi* (Main & Mascord), comb. nov.
*EUCYRTOPS* Pocock, 1897, p. 113
*Eucyrtops eremaea* Main, 1957, p. 421
*Eucyrtops riparia* Main, 1957, p. 419
*EUOPLOS* Rainbow, 1914, p. 217, emended to *Evoplos* by Bonnet (1956, pp. 1813, 1892) = *Arbanitis* Koch. New synonymy
*Evoplos spinnipes* Rainbow, 1914, p. 219 = *Arbanitis spinnipes* (Rainbow), comb. nov.
*GAIUS* Rainbow, 1914, p. 195 = *ANIDIOPS* Pocock: Main, 1957*b*
*Gaius hirsutus* Rainbow & Pulleine, 1918, p. 102 = *Anidiops manstridgei* Pocock: Main 1957*b*. Synonymy doubtful, may be valid species of *Anidiops*
*Gaius villosus* Rainbow, 1914, p. 195 = *Anidiops villosus* (Rainbow): Main, 1957*b*
*HERMEAS* Karsch, 1878, p. 823 = *MISGOLAS* Karsch. New synonymy
*Hermeas crispus* Karsch, 1878, p. 823 = *Misgolas crispus* (Karsch), comb. nov.
*HOMOGONA* Rainbow, 1914, p. 189. Transferred from Migidae (Main 1983)
*Homogona pulleinei* Rainbow, 1914, p. 190
*Homogona cunicularius* Main, 1983, p. 89
*IDIOPS* Perty, 1833, p. 197
*Idiops sigillatus* Cambridge, 1870, p. 105 = *Idiosoma sigillatum* (Cambridge): Ausserer, 1871
*IDIOSOMA* Ausserer, 1871, p. 150

*Idiosoma hirsutum* Main, 1952, p. 131. Main (1957*b*) regarded it as hybrid, *I. sigillatum* × *Aganippe raphiduca*, here reinstated
*Idiosoma nigrum* Main, 1952, p. 133
*MEGALOSARA* Rainbow, 1914, p. 205 = *MISGOLAS* Karsch. New synonymy
*Megalosara villosa* Rainbow, 1914, p. 206 = *Misgolas rapax* Karsch. New synonymy
*MISGOLAS* Karsch, 1878, p. 821
*Misgolas rapax* Karsch, 1878, p. 821
*MYGALE* Latreille, 1802*a*, p. 345; 1802*b*, p. 49
*Mygale annulipes* C. L. Koch, 1842, p. 52 = *Arbanitis annulipes* (C. L. Koch): Musgrave, 1948; Hickman, 1967
*NEOHOMOGONA* Main, nov. gen.
*Neohomogona bolganupensis* Main, sp. nov.
*Neohomogona stirlingi* Main, sp. nov.
*PHOLEUON* Koch, 1873, p. 471, preoccupied = *ARBANITIS* Koch, 1874, p. 491, nom. nov.
*Pholeuon longipes* Koch, 1873, p. 472 = *Arbanitis longipes* (Koch)
*TAMBOURINIANA* Rainbow & Pulleine, 1918, p. 120 = *ARBANITIS* Koch: Main, 1967
*Tambouriniana variabilis* Rainbow & Pulleine, 1918, p. 121 = *Arbanitis variabilis* (Rainbow & Pulleine, 1918): Main, 1967
*Tambouriniana variabilis flavomaculata* Rainbow & Pulleine, 1918, p. 122 = *Arbanitis variabilis* (Rainbow & Pulleine): Bonnet, 1959, p. 4237 synonymized var. *flavomaculata* with *T. variabilis*

**Species transferred from other families**

*Idioctis ornata* Rainbow 1914, p. 230. Transferred from Barychelidae = *Dyarcyops ornata* (Rainbow): Main, 1977 = *Misgolas ornata* (Rainbow), comb. nov.
*Idioctis papuensis* Rainbow, 1920, p. 82 = *Arbanitis villosus* Rainbow = *Dyarcyops villosus* (Rainbow): Main, 1977 = ?*Misgolas villosus* (Rainbow), comb. nov. or *incertae sedis*
*Idiommata schomburgki* Karsch, 1878, p. 820. Transferred from Barychelidae = *Aganippe subtristis* Cambridge. New synonymy
*Aname pulchra* Rainbow & Pulleine, 1918, p. 153. Transferred from Dipluridae = *Dyarcyops pulchellus* (Rainbow & Pulleine): Main, 1977 = *Misgolas pulchellus* (Rainbow & Pulleine), comb. nov.
*Macrothele aculeata* Urquhart, 1893, p. 94. Transferred from Dipluridae by Main (1960) but not attributed to a genus = *Arbanitis annulipes* (C. L. Koch). New synonymy

**Appendix 2**

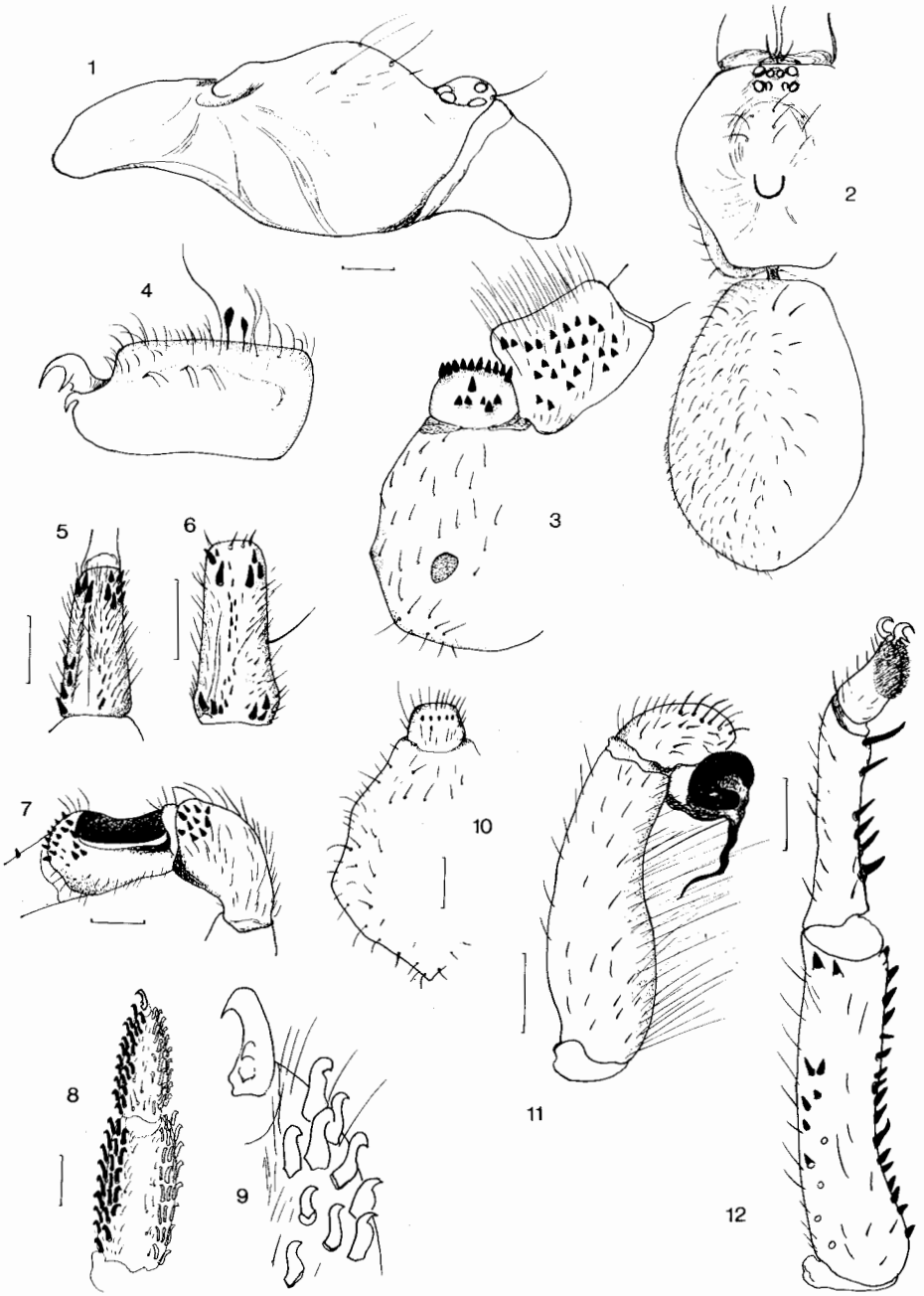
The 11 genera and 59 species of Australian Ctenizidae recognized in this study; synonyms of genera; valid names of species, their original combinations and synonyms.

*AGANIPPE* Cambridge, 1877.
*Aganippe bancrofti* (Rainbow, 1914)
*Blakistonia bancrofti* Rainbow, 1914
*Aganippe berlandi* Rainbow, 1914
*Aganippe cupulifex* Main, 1957
*Aganippe modesta* Rainbow & Pulleine, 1918
*Aganippe occidentalis* Hogg, 1903
*Aganippe pelochroa* Rainbow & Pulleine, 1918
*Aganippe raphiduca* Rainbow & Pulleine, 1918
*Aganippe robusta* Rainbow & Pulleine, 1918
*Aganippe simpsoni* Hickman, 1944
*Aganippe smeatoni* Hogg, 1902
*Aganippe subtristis* Cambridge, 1877
Synonyms: *Idiommata schomburgki* Karsch, 1878; *Aganippe pulleinei* Hogg, 1902

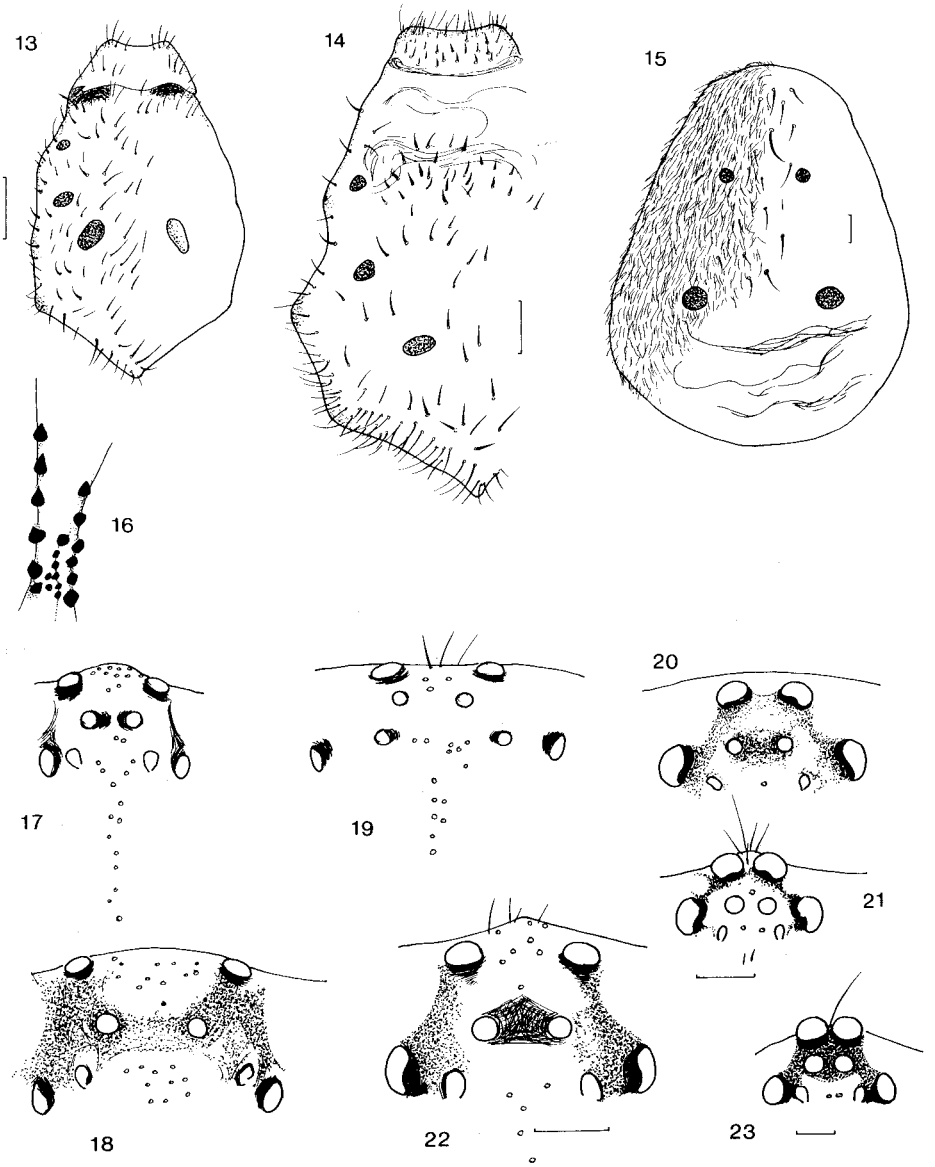
*ANIDIOPS* Pocock, 1897
Synonym: *Gaius* Rainbow, 1914
*Anidiops manstridgei* Pocock, 1897
Synonyms: *Aganippe whitei* Rainbow, 1915; *Gaius hirsutus* Rainbow & Pulleine, 1918
*Anidiops villosus* (Rainbow, 1914)
*Gaius villosus* Rainbow, 1914
*ARBANITIS* Koch, 1874
nom. nov. for *Pholeuon* Koch, 1873 (preoccupied)
Synonyms: *Albaniana* Rainbow & Pulleine, 1918; *Armadalia* Rainbow & Pulleine, 1918; *Bancroftiana* Rainbow, 1914; *Cantuaria* Hogg, 1902; *Evoplos* Rainbow, 1914; *Korua* Todd, 1945; *Tambouriniana* Rainbow & Pulleine, 1918
*Arbanitis annulipes* (C. L. Koch, 1842)
*Mygale annulipes* C. L. Koch, 1842
Synonyms: *Macrothele aculeata* Urquhart, 1893; *Arbanitis maculipes* Hogg, 1903
*Arbanitis festivus* Rainbow & Pulleine, 1918
*Arbanitis inornatus* (Rainbow & Pulleine, 1918)
*Albaniana inornata* Rainbow & Pulleine, 1918
Synonyms: *Albaniana flavomaculata* Rainbow & Pulleine, 1918; *Armadalia setosa* Rainbow & Pulleine
*Arbanitis hoggi* (Simon, 1908)
*Cantuaria hoggi* Simon, 1908
*Arbanitis longipes* (Koch, 1873)
*Pholeuon longipes* Koch, 1873
*Arbanitis ornatus* (Rainbow & Pulleine, 1918)
*Albaniana ornata* Rainbow & Pulleine, 1918
Synonyms: *Bancroftiana speciosa* Rainbow & Pulleine; *Armadalia ornata* Rainbow & Pulleine
*Arbanitis similaris* Rainbow & Pulleine, 1918
*Arbanitis spinnipes* (Rainbow, 1914)
*Euoplos spinnipes* Rainbow, 1914
*Arbanitis tasmanica* (Hickman, 1928)
*Aganippe tasmanica* Hickman, 1928
*Arbanitis variabilis* (Rainbow & Pulleine, 1918)
*Tambouriniana variabilis* Rainbow & Pulleine, 1918
Synonyms: *Tambouriniana variabilis flavomaculata* Rainbow & Pulleine; *Albaniana villosa* Rainbow & Pulleine
*Arbanitis zorodes* (Rainbow & Pulleine, 1918)
*Armadalia zorodes* Rainbow & Pulleine, 1918
*BLAKISTONIA* Hogg, 1902
Synonym: *Cantuarides* Strand, 1907
*Blakistonia aurea* Hogg, 1902
Synonym: *Aganippe villosa* Rainbow & Pulleine, 1918
*Blakistonia exsiccatus* (Strand, 1907)
*Cantuarides exsiccatus* Strand, 1907
*Blakistonia rainbowi* (Pulleine, 1919)
*Aganippe rainbowi* Pulleine, 1919
*CATAXIA* Rainbow, 1914
*Cataxia babindaensis* Main, 1969
*Cataxia dietrichae*, sp. nov.
*Cataxia eungellaensis* Main, 1969
*Cataxia maculata* Rainbow, 1914
Synonyms: *Cataxia tetrica* Rainbow & Pulleine, 1918; *Arbanitis inornatus* Rainbow & Pulleine, 1918
*Cataxia pallida* (Rainbow & Pulleine, 1918)

*Armadalia pallida* Rainbow & Pulleine, 1918
*Cataxia spinipectoris* Main, 1969
*CONOTHELE* Thorell, 1878
*Conothele arboricola* Pocock, 1898
*Conothele doleschalli* Thorell, 1881
*Conothele malayana* (Doleschall, 1859)
*Cteniza malayana* Doleschall, 1859
*EUCYRTOPS* Pocock, 1897
*Eucyrtops eremaea* Main, 1957
*Eucyrtops latior* (Cambridge, 1877)
*Aganippe latior* Cambridge, 1877
*Eucyrtops riparia* Main, 1957
*HOMOGONA* Rainbow, 1914
*Homogona pulleinei* Rainbow, 1914
*Homogona cunicularius* Main, 1983
*IDIOSOMA* Ausserer, 1871
*Idiosoma hirsutum* Main, 1957
*Idiosoma nigrum* Main, 1957
*Idiosoma sigillatum* (Cambridge, 1870)
*Idiops sigillatus* Cambridge, 1870
*MISGOLAS* Karsch, 1878
Synonyms: *Dyarcyops* Hogg, 1902; *Hermeas* Karsch, 1878; *Megalosara* Rainbow, 1914
*Misgolas andrewsi* (Hogg, 1902)
*Dyarcyops andrewsi* Hogg, 1902
*Misgolas biroi* (Kulczynski, 1908)
*Dyarcyops biroi* Kulczynski, 1908
*Misgolas crispus* (Karsch, 1878)
*Hermeas crispus* Karsch, 1878
Synonym: ?*Arbanitis scaurus* Hickman, 1927
*Misgolas elegans* (Rainbow & Pulleine, 1918)
*Arbanitis elegans* Rainbow & Pulleine, 1918
*Misgolas gracilis* (Rainbow & Pulleine, 1918)
*Arbanitis gracilis* Rainbow & Pulleine, 1918
*Misgolas hirsutus* (Rainbow & Pulleine, 1918)
*Arbanitis hirsutus* Rainbow and Pulleine, 1918
*Misgolas maculosus* (Rainbow & Pulleine, 1918)
*Dyarcyops maculosus* Rainbow & Pulleine, 1918
*Misgolas mestoni* (Hickman, 1928)
*Arbanitis mestoni* Hickman, 1928
*Misgolas ornatus* (Rainbow, 1914)
*Idioctis ornata* Rainbow, 1914
Synonym: *Aganippe ornata* Rainbow & Pulleine, 1918
*Misgolas papilliosus* (Rainbow & Pulleine, 1918)
*Arbanitis papilliosus* Rainbow & Pulleine, 1918
*Misgolas pulchellus* (Rainbow & Pulleine, 1918)
*Arbanitis pulchellus* Rainbow & Pulleine, 1918
Synonym: *Aname pulchra* Rainbow & Pulleine, 1918
Nomen nudum: *Arbanitis pulchra* Rainbow & Pulleine, 1918
*Misgolas rapax* Karsch, 1878
Synonyms: *Megalosara villosa* Rainbow, 1914; *Dyarcyops ionthus* Rainbow & Pulleine, 1918; *Arbanitis fuscipes* Rainbow & Pulleine, 1914; ?*Arbanitis montanus* Rainbow & Pulleine, 1918; *Arbanitis chisholmi* Hickman, 1933; *Dyarcyops melancholicus* Rainbow & Pulleine, 1918

*Misgolas robertsi* (Main & Mascord, 1974)
*Dyarcyops robertsi* Main & Mascord, 1974
*MISGOLAS : incertae sedis*
*Misgolas villosus* (Rainbow, 1920)
*Arbanitis villosus* Rainbow, 1920
Synonyms: *Arbanitis bradleyi* Rainbow, 1920; *Idioctis papuensis* Rainbow, 1920
*NEOHOMOGONA*, gen. nov.
*Neohomogona bolganupensis*, sp. nov.
*Neohomogona stirlingi*, sp. nov.

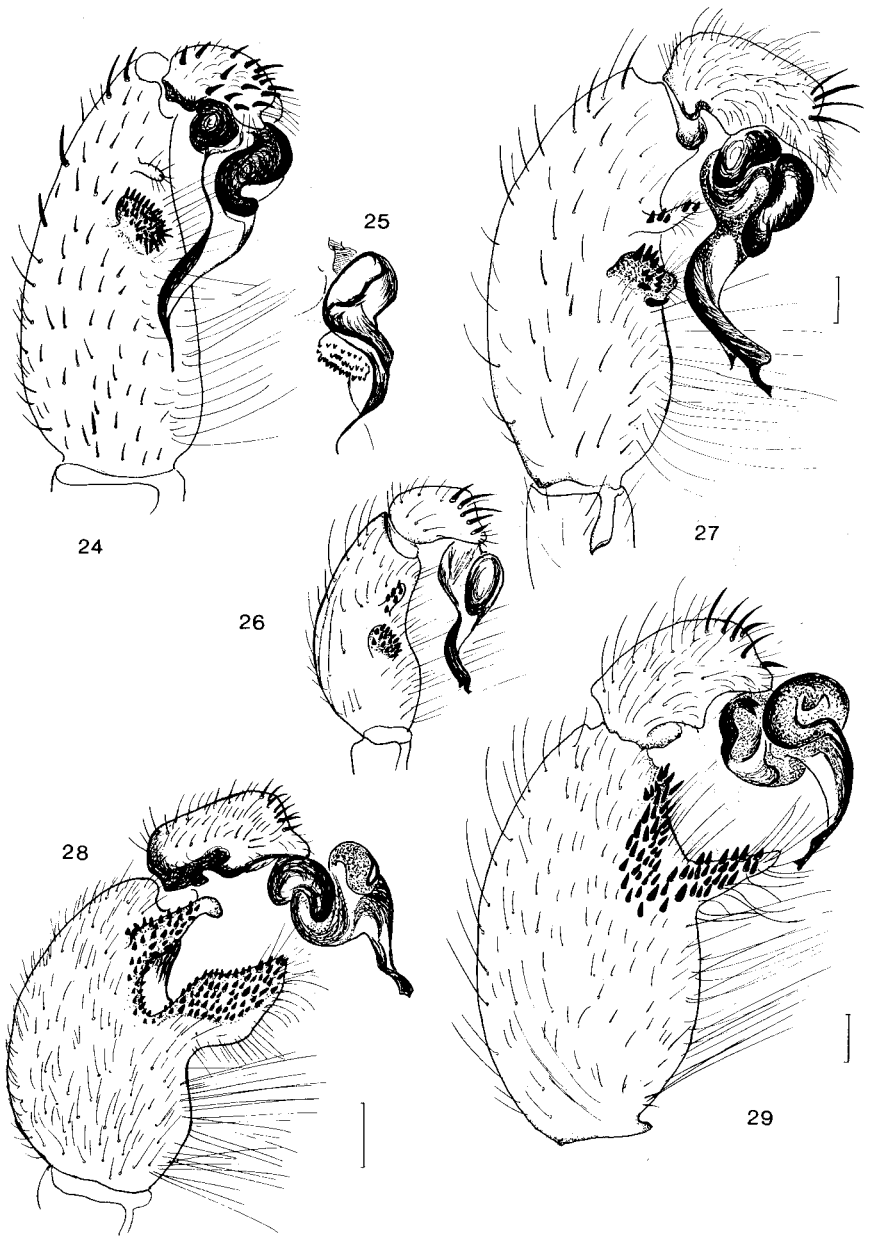



**Figs 1–12.** *Conothele*: *1–9*, females; *10–12*, male. *1*, Profile of carapace (BYM 55/146); *2*, dorsal aspect of carapace and abdomen (BYM 65/552); *3*, sternal area and left maxilla (syntype, *C. doleschalli* Thorell); *4*, profile of tarsus I, showing baton-like bothria (BYM 54/45); *5*, *6*, dorsal view of metatarsus III of right leg (*5*, BYM 55/146; *6*, BYM 54/45); *7*, profile of tibia III (BYM 55/146); *8*, *9*, ventral spination of tarsus and metatarsus 1 (BYM 55/146). *10–12*, 'Allotype' nec paratype, *C. malayana* (Doleschall) (see Main 1957*a*): *10*, sternal area; *11*, retrolateral view of palp; *12*, tarsus, metatarsus and tibia of left leg I. Scale bars: *1*, *5–8*, *10–12* 1 mm; *2*, *3*, *4*, *9*, not to scale.

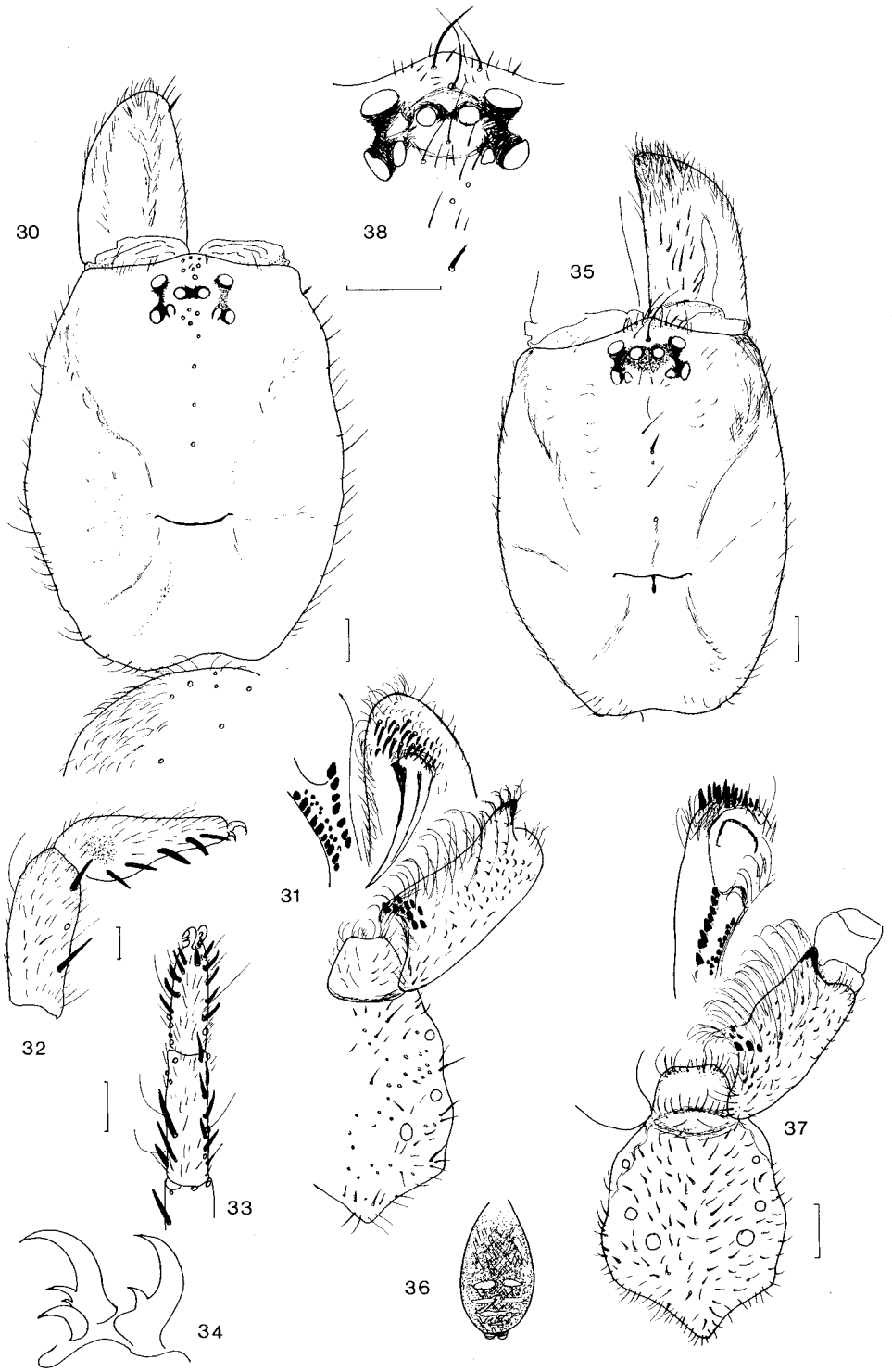



**Figs 13–16.** Aganippini. *13*, *15–16*, *Aganippe subtristis* Cambridge: *13*, sternum and labium of ♀ from Pichi Richi, SA (BYM 52/427); *15*, dorsum of abdomen of ♀ from Mt Remarkable, SA (BYM 52/405); *16*, teeth of left chelicera (BYM 52/427). *14*, *Anidiops villosus* (Rainbow) (holotype, *Gaius villosus* Rainbow), sternum and labium. Scale bars: *13–15*, 1 mm; *16*, not to scale.

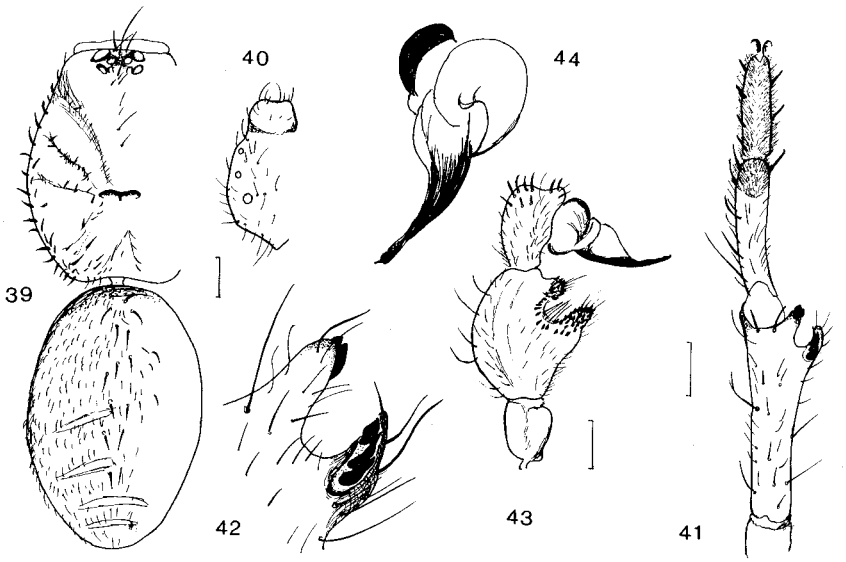
**Figs 17–23.** Eyes of Aganippini. *17*, *18*, *Aganippe subtristis* Cambridge: *17*, paralectotype ♂, *Aganippe pulleinei* Hogg; *18*, holotype ♀, *Aganippe subtristis* Cambridge. *19*, *Eucyrtops latior* (Cambridge) (holotype ♀, *Aganippe latior* Cambridge). *20*, *21*, *Anidiops manstridgei* Pocock: *20*, holotype ♀; *21*, ♀ specimen from W. Leonora near Lawlers, i.e. type-locality (BYM 54/378). *22*, *Anidiops villosus* (Rainbow) (holotype ♀, *Gaius villosus* Rainbow). *23*, *Idiosoma nigrum* Main ('allotype' nec paratype). Scale bars: *21–23*, 1 mm



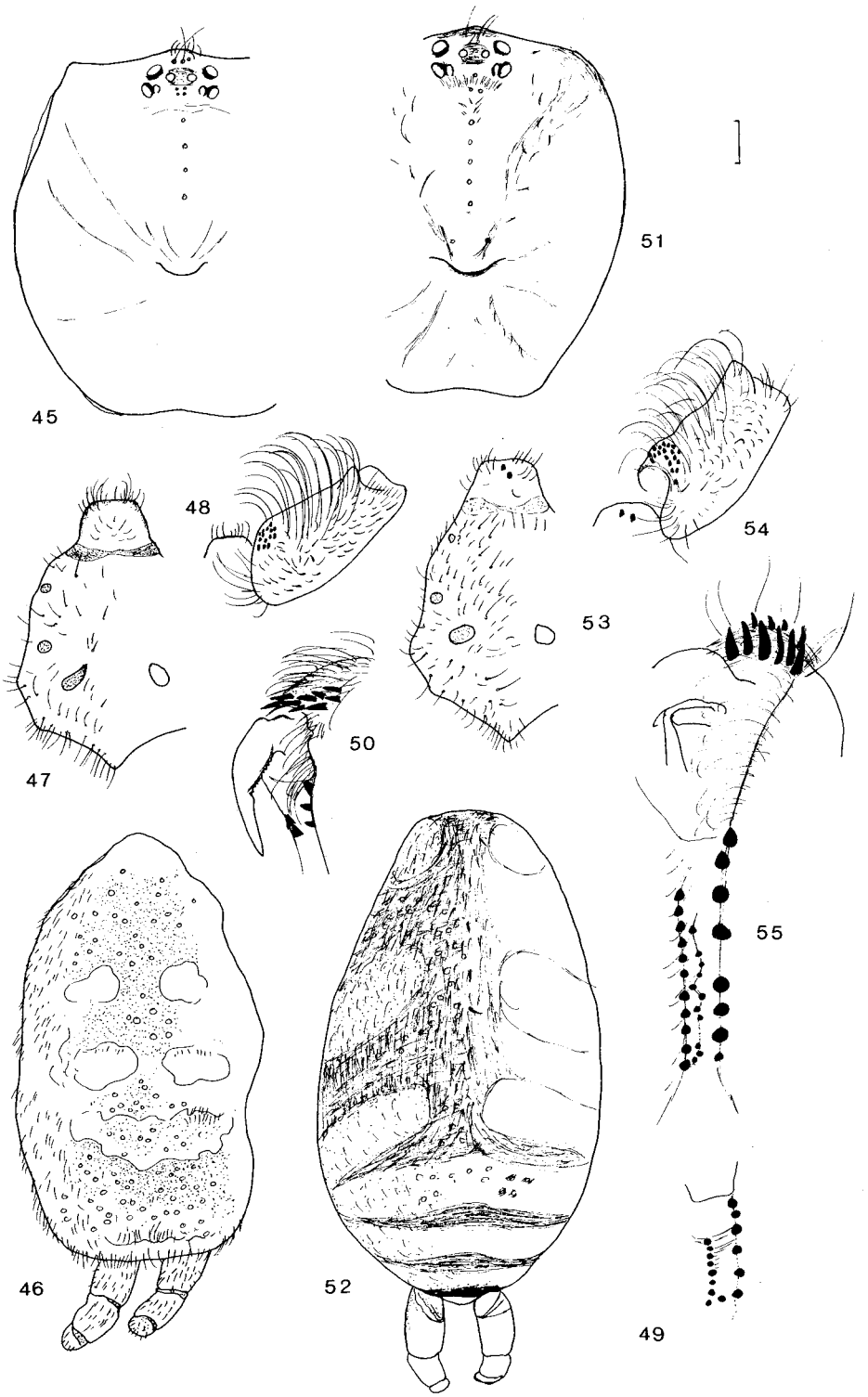

**Figs 24–29.** Retrolateral aspect (except *25*) of palps of male Aganippini. *24–25*, *Aganippe subtristis* Cambridge (paralectotype, *Aganippe pulleinei* Hogg): *25*, prolateral aspect of embolus, bulb and apophysis. *26*, *Idiosoma sigillatum* (Cambridge) (holotype, *Idiops sigillatus* Cambridge). *27*, *Idiosoma nigrum* Main ('allotype', nec paratype, see Main 1957*b*). *28*, *Anidiops villosus* (Rainbow) (allotype, nec paratype, see Main 1957*b*). *29*, *Eucyrtops latior* (Cambridge) ('allotype', nec paratype, see Main 1957*b*). Scale bars: *28*, 1 mm; *27*, *29*, 0·5 mm; *24–26*, not to scale.



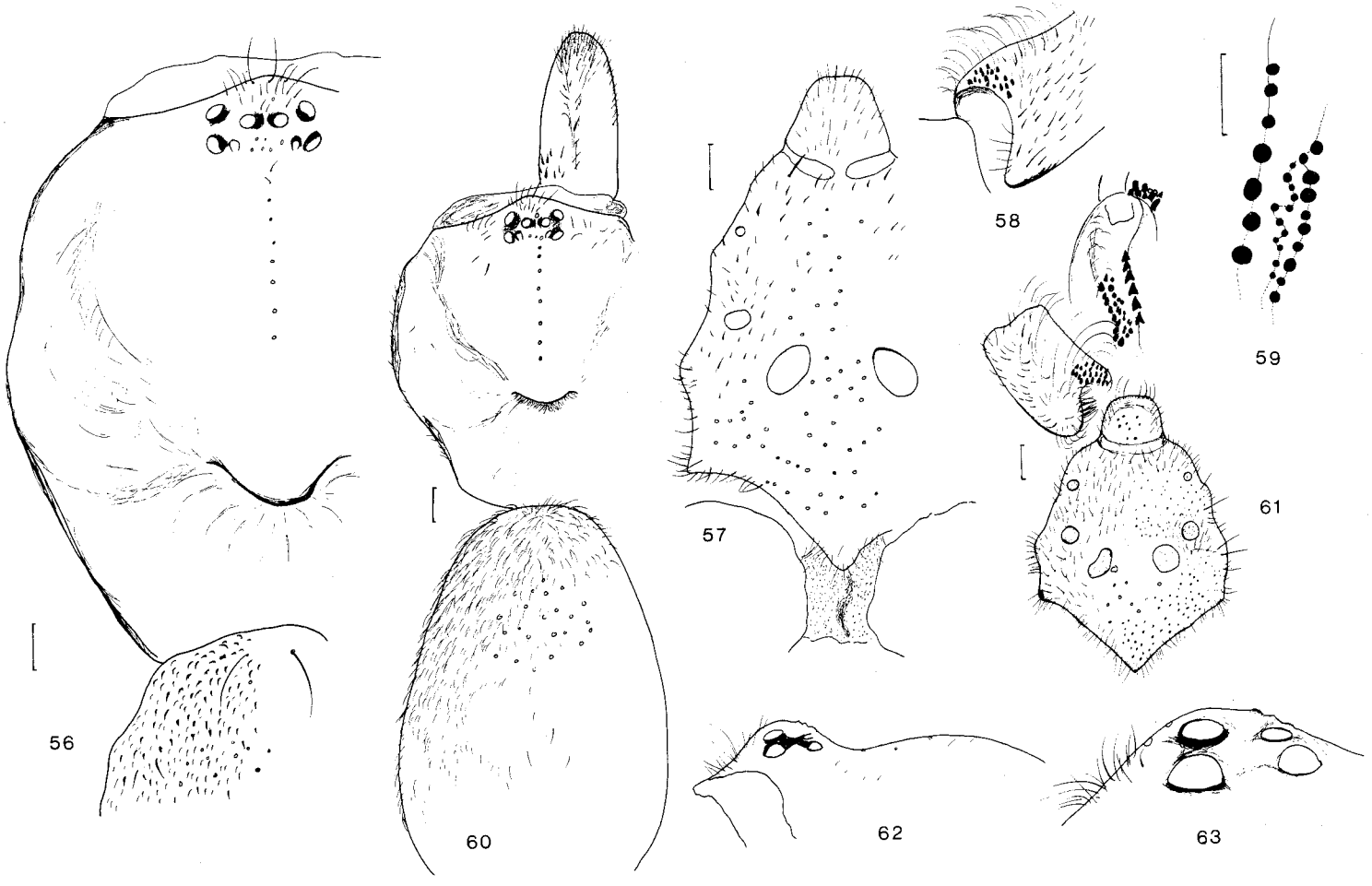

**Figs 30–38.** *Cataxia. 30–34, C. pallida* (Rainbow & Pulleine) (holotype penultimate ♂, *Armadalia pallida* Rainbow & Pulleine): *30*, carapace and eye-group; *31*, sternal area and chelicerae; *32*, retrolateral aspect of tarsus and tibia of right palp; *33*, tarsus and metatarsus of right leg I; *34*, tarsal claws of right leg IV: left to right of figure, retroclaw and proclaw. *35–38, C. dietrichae*, sp. nov., allotype ♀: *35*, carapace; *36*, abdomen; *37*, sternal area; *38*, eyes. Scale bars: 1 mm; *34*, *36*, not to scale.



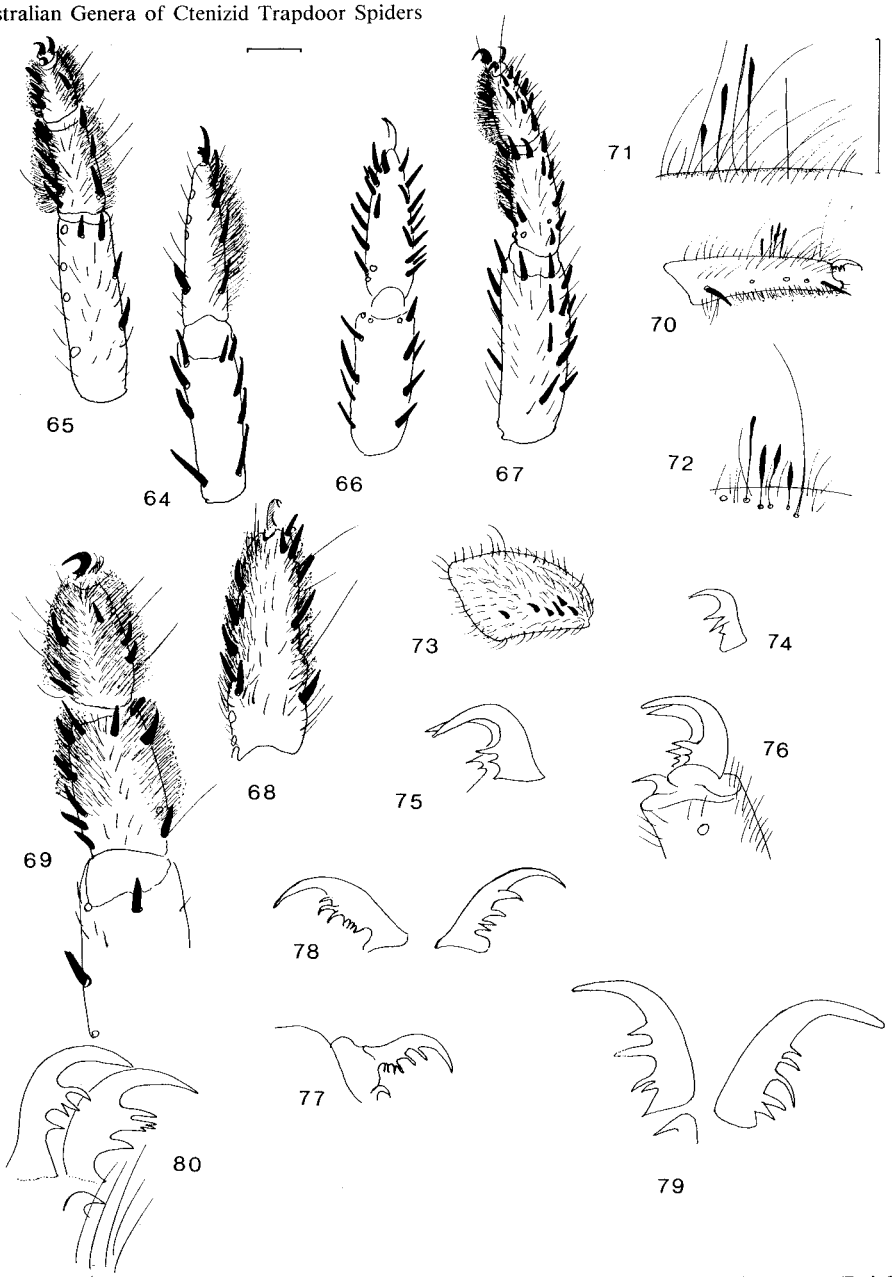

**Figs 39–44.** *Cataxia dietrichae*, holotype ♂. *39*, Dorsal view of carapace and abdomen; *40*, sternum and labium; *41*, ventral aspect of tarsus, metatarsus and tibia of right leg I; *42*, ventral aspect of apical apophysis of first tibia; *43*, retrolateral view of tarsus and tibia of right palp; *44*, prolateral view of bulb and embolus of palp. Scale bars: 1 mm; *42* and *44*, not to scale.



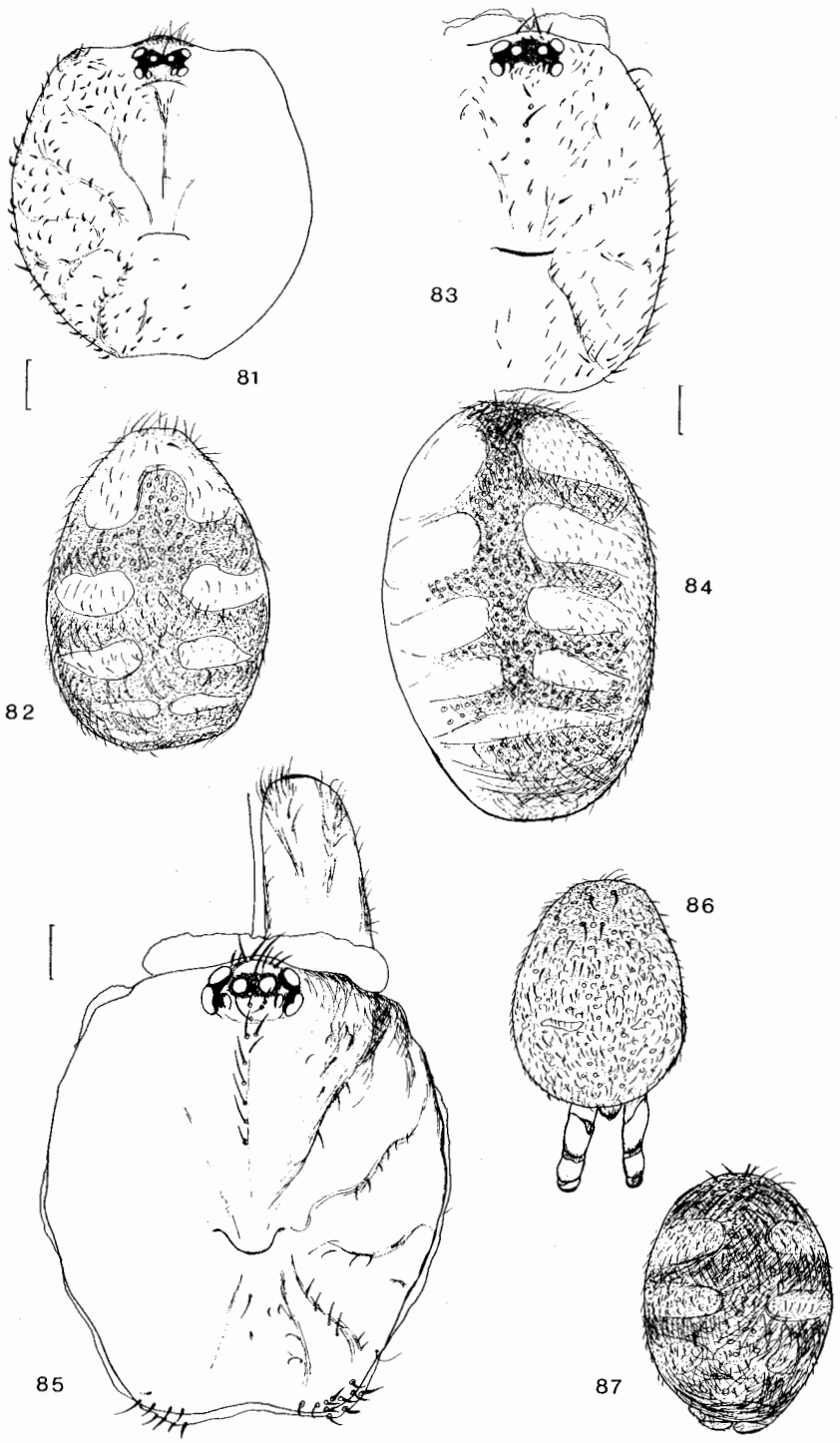

**Figs 45–55.** *Arbanitis* females. *45–50*, *A. inornatus* (Rainbow & Pulleine): *45–49*, holotype, *Albaniana flavomaculata* Rainbow & Pulleine; *50*, *A. inornatus* (BYM 1957/104) from Jarrahdale, WA; *45*, carapace; *46*, dorsum of abdomen; *47*, sternal area; *48*, left maxilla; *49*, right cheliceral teeth; *50*, fang. *51–55*, *A. ornatus* (Rainbow & Pulleine) (holotype, *Albaniana ornata* Rainbow & Pulleine): *51*, carapace; *52*, dorsal view of abdomen; *53*, sternal area; *54*, left maxilla; *55*, right chelicera, rastellum and teeth of groove. Scale bar: 1 mm; *49*, *50*, *55*, not to scale.



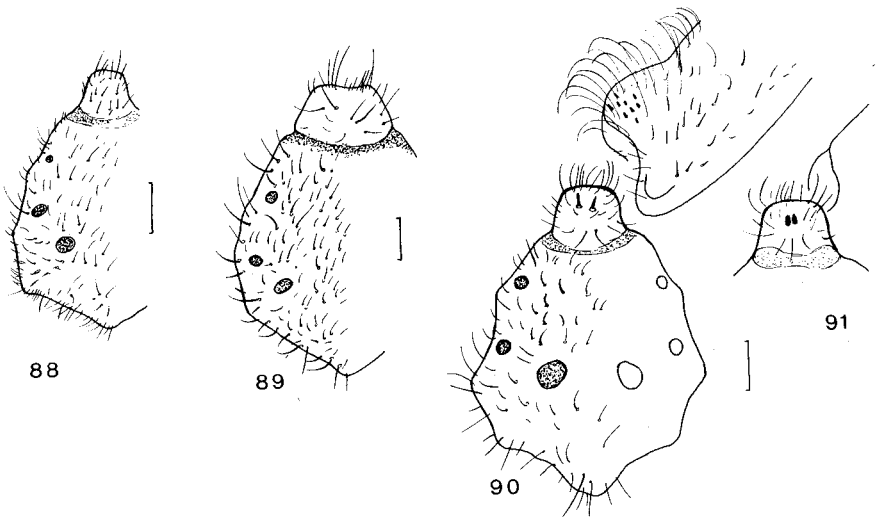

**Figs 56–63**. *Arbanitis* females. *56–59*, *A. spinnipes* (Rainbow) (holotype, *Evoplos spinnipes* Rainbow): *56*, carapace and anterior of abdomen; *57*, sternal area; *58*, antero-ental angle of left maxilla; *59*, cheliceral teeth. *60–63*, *A. variabilis* (Rainbow & Pulleine) (holotype, *Tambouriniana variabilis* Rainbow & Pulleine): *60*, dorsal aspect of chelicera, carapace and abdomen; *61*, sternal area and right chelicera; *62*, profile of caput and eyes; *63*, profile of eyes, enlarged. Scale bars: 1 mm; *62*, *63*, not to scale.



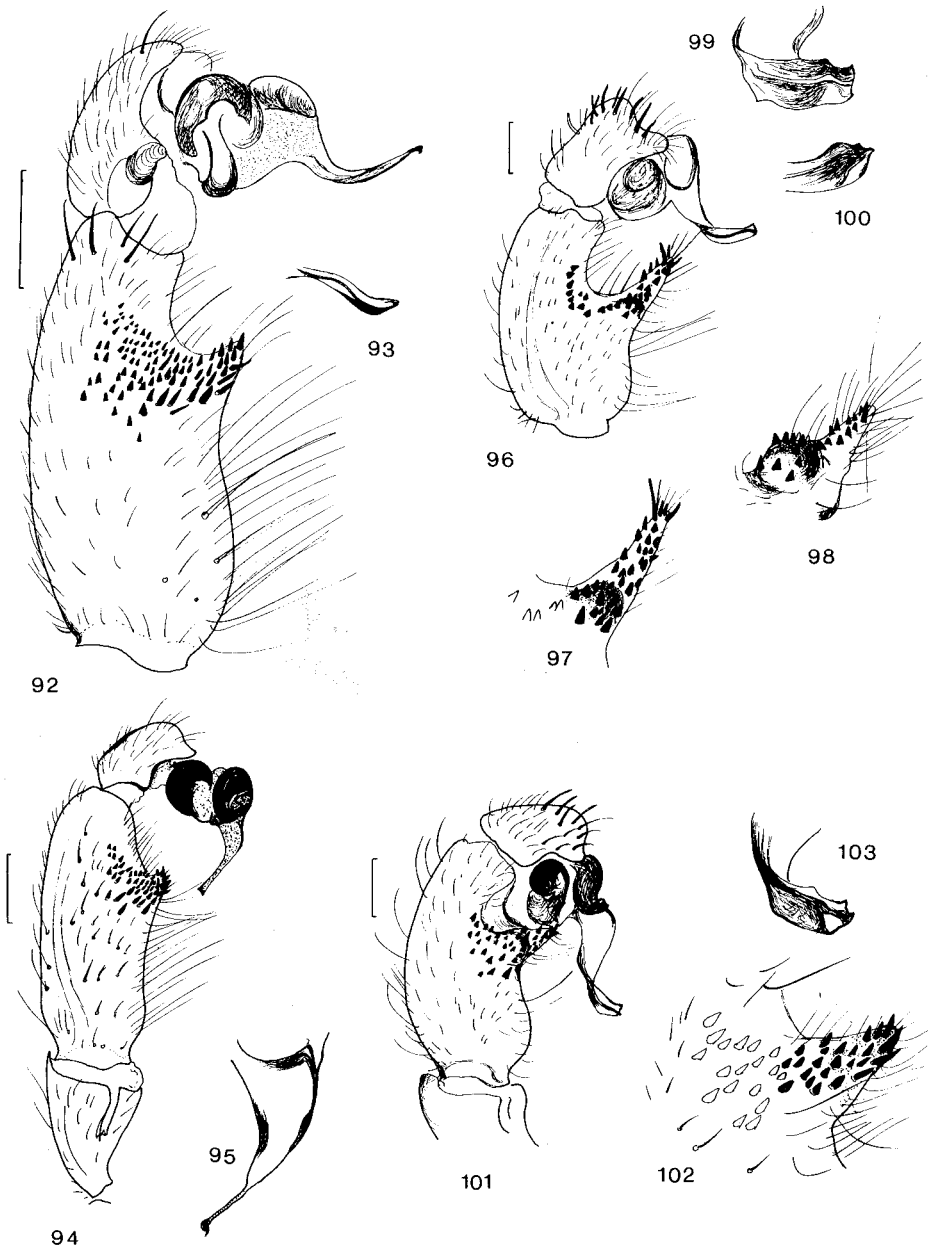

**Figs 64–80.** *Arbanitis*: *64–76*, females; *77–80*, males. *64–65*, *70*, *71*, *74*, *77*, *78*, *A. ornatus* (Rainbow & Pulleine): *64–65*, *70*, *71*, *74*, holotype, *Albaniana ornata* Rainbow & Pulleine; *64*, ventral spination of right palp, tarsus and tibia; *65*, ventral spination of right leg I, tarsus, metatarsus and tibia; *70*, *71*, baton-like bothria on palp tarsus; *74*, retrolateral aspect of tarsal claw of left palp. *77*, *78*, holotype, *Bancroftiana speciosa* Rainbow & Pulleine: *77*, right leg I, retrolateral view of proclaw; *78*, prolateral view of proclaw and retrolateral view of retroclaw of right leg IV. *66*, *67*, *72*, *79*, *A. inornatus* (Rainbow & Pulleine): *66*, *67*, *72* holotype, *Albaniana flavomaculata* Rainbow & Pulleine: *66*, ventral spination of left palp, tarsus and tibia; *67*, ventral spination of tarsus, metatarsus and tibia of left leg I; *72*, baton-like bothria of palp tarsus; *79*, 'allotype', nec paratype, *Albaniana flavomaculata* Rainbow & Pulleine: retrolateral and prolateral claws of right leg I. *68*, *69*, *73*, *80*, *A. variabilis* (Rainbow & Pulleine): *68*, *69*, *73*, holotype, *Tambouriniana variabilis* Rainbow & Pulleine: *68*, ventral spination of tarsus of right palp; *69*, ventral spination of tarsus and metatarsus of right leg I; *73*, prolateral spines of right patella III; *80*, 'allotype', nec paratype, *Tambouriniana variabilis* Rainbow & Pulleine, tarsal claws of right leg IV, retroclaw on left, proclaw on right. *75*, *76*, tarsal claws of *A. spinnipes* (Rainbow) (holotype, *Euoplos spinnipes* Rainbow): *75*, prolateral view of right leg I; *76*, prolateral view of right leg II. Scale bars: *64–70*, *73*, common scale, 1.0 mm; *71*, 0.3 mm; *72*, *74–80*, not to scale.



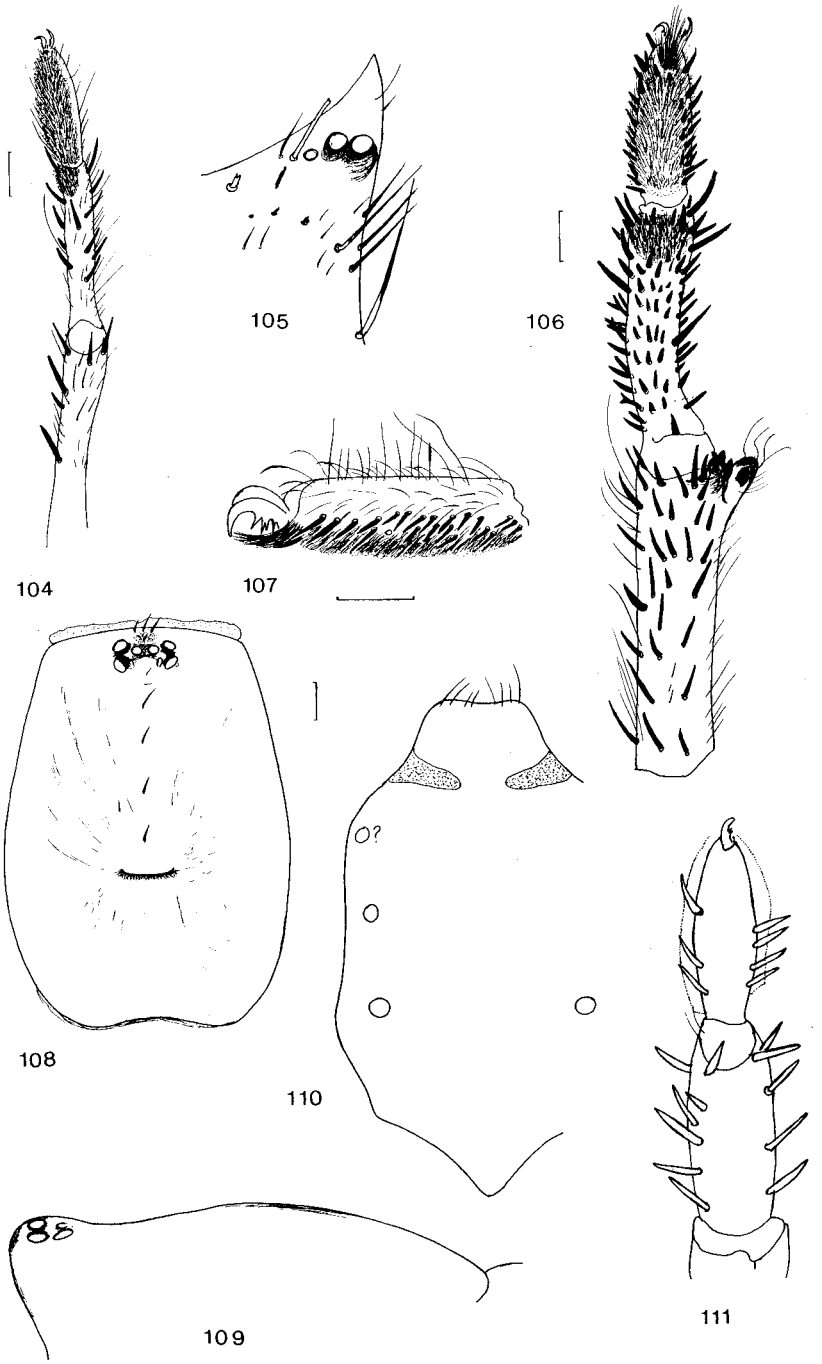

**Figs 81–87.** *Arbanitis* males, carapace and abdomen. *81*, *82*, *A. inornatus* (Rainbow & Pulleine) ('allotype', nec paratype, *Albaniana flavomaculata* Rainbow & Pulleine): *81*, carapace; *82*, abdomen. *83*, *84*, *A. ornatus* (Rainbow & Pulleine) (holotype, *Bancroftiana speciosa* Rainbow): *83*, carapace; *84*, abdomen. *85–87*, *A. variabilis* (Rainbow & Pulleine): *85*, *86*, 'allotype', nec paratype, *Tambouriniana variabilis* Rainbow & Pulleine, carapace and abdomen; *87*, Palm Grove specimen (QM S 1390), abdomen. Scale bars: 1 mm.



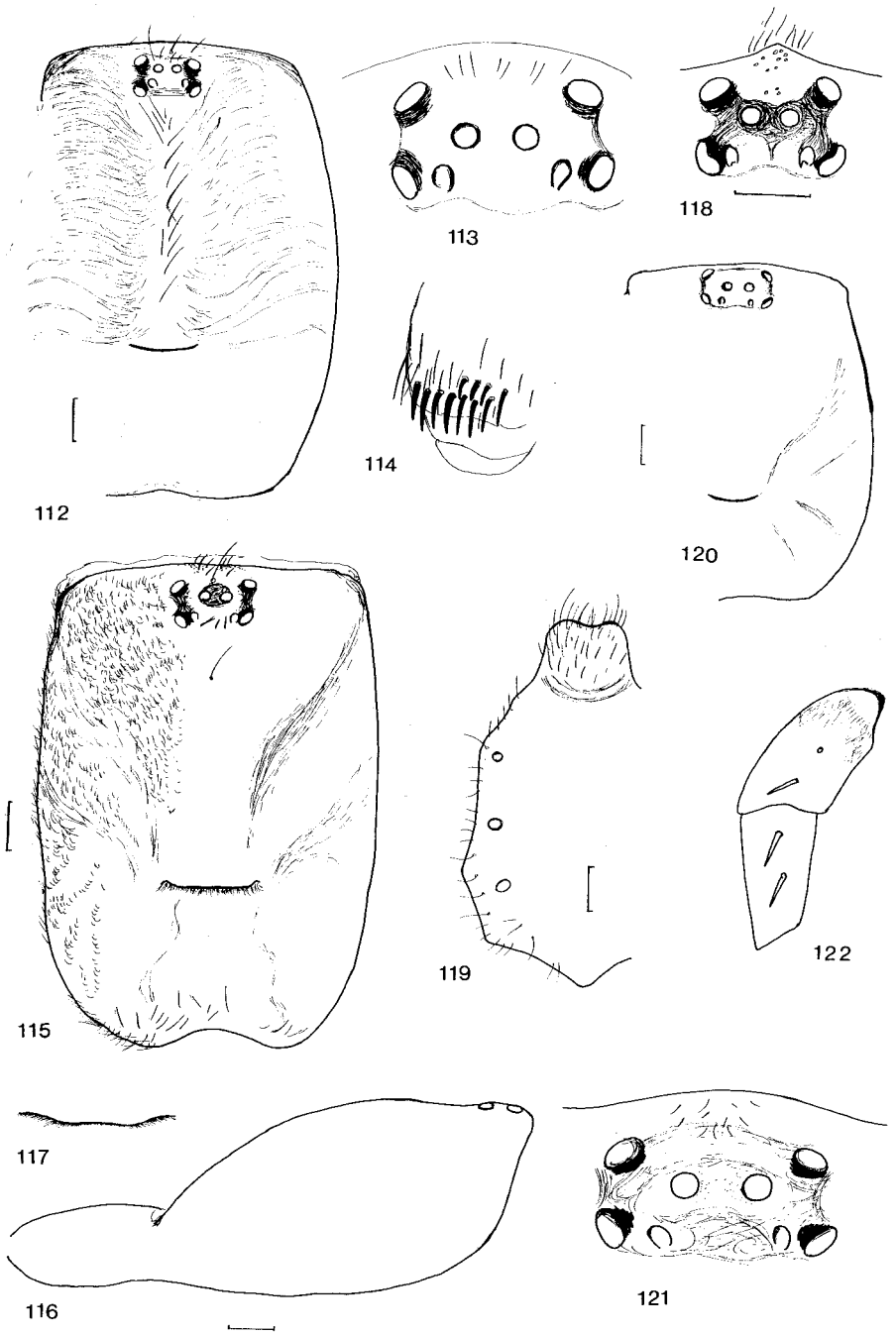

**Figs 88–91.** *Arbanitis* males, sternal area. *88*, *A. ornatus* (Rainbow & Pulleine) (holotype, *Bancroftiana speciosa* Rainbow & Pulleine); *89*, *A. inornatus* (Rainbow & Pulleine) ('allotype', nec paratype, *Albaniana flavomaculata* Rainbow & Pulleine); *90*, *A. variabilis* (Rainbow & Pulleine) ('allotype', nec paratype, *Tambouriniana variabilis* Rainbow & Pulleine); *91*, *A. variabilis* from Palm Grove, Tamborine Mountain, Q (QM S 1390), labium. Scale bars: 1 mm.



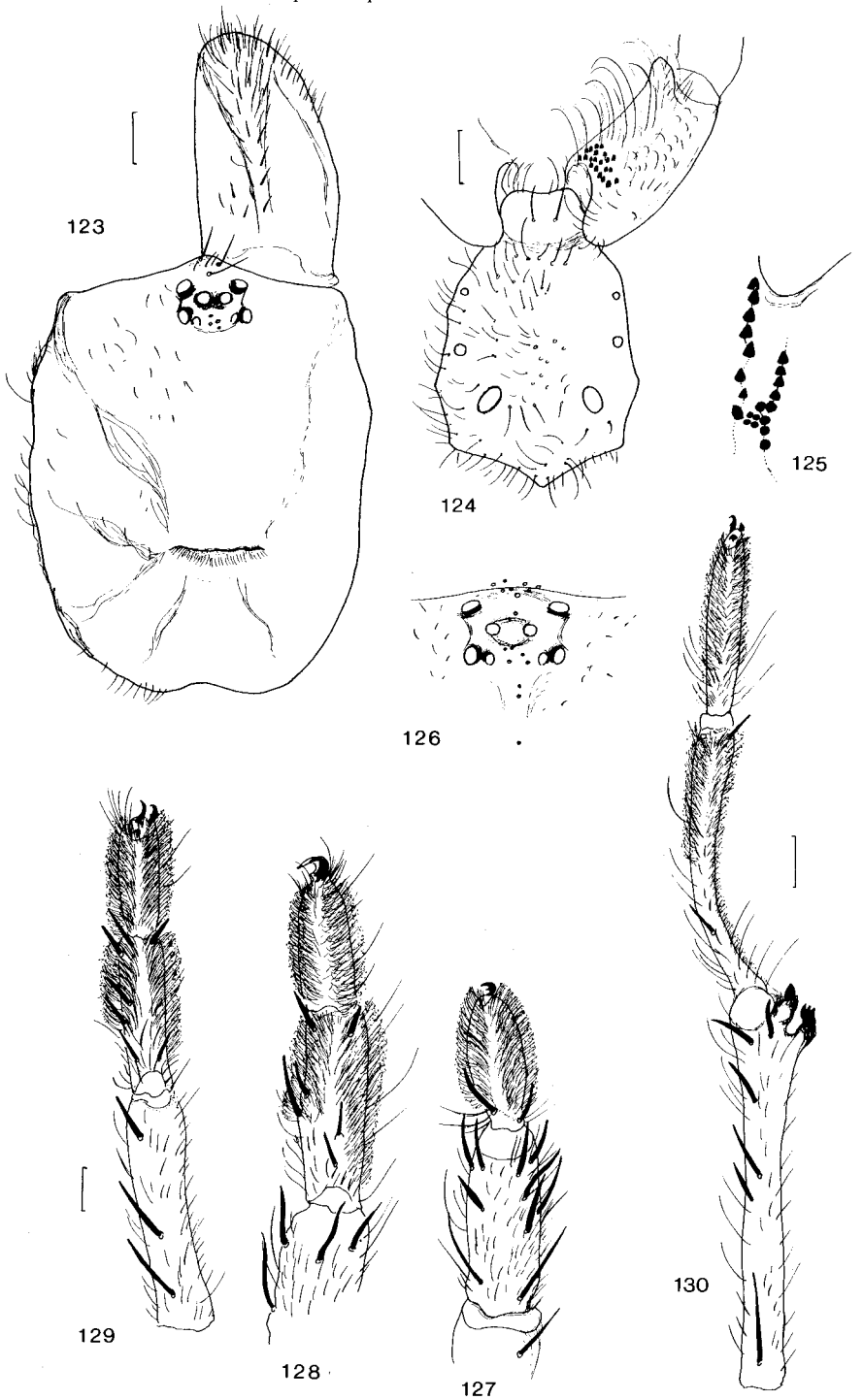

**Figs 92–103.** *Arbanitis* male palps. *92*, *93*, *A. ornatus* (Rainbow & Pulleine) (holotype, *Bancroftiana speciosa* Rainbow & Pulleine): *92*, retrolateral aspect of right palp; *93*, embolus tip, enlarged. *94*, *95*, *A. inornatus* (Rainbow & Pulleine) ('allotype', nec paratype, *Albaniana flavomaculata* Rainbow & Pulleine): *94*, retrolateral aspect of right palp; *95*, embolus, enlarged. *96–103*, *A. variabilis* (Rainbow & Pulleine): *96–100*, 'allotype', nec paratype, *Tambouriniana variabilis* Rainbow & Pulleine: *96*, retrolateral aspect of right palp; *97*, retrolateral aspect of medial apophysis, enlarged; *98*, ventral aspect of medial apophysis, enlarged; *99*, *100*, embolus tip, enlarged; *101–103*, specimen from Palm Grove, Tamborine Mountain, Q (QM S 1390): *101*, retrolateral aspect of right palp; *102*, medial apophysis, enlarged; *103*, embolus tip, enlarged. Scale bars: *92*, *94*, *96*, *101*, 1.0 mm; others not to scale.



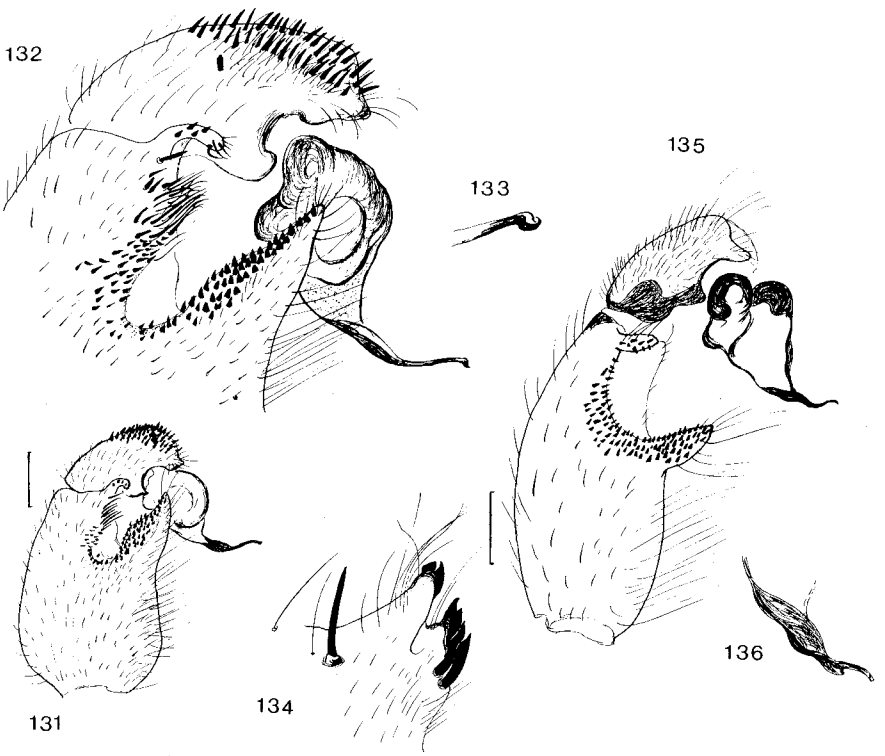

**Figs 104–111.** *104–107*, *Arbanitis* males, right leg I: *104*, *A. inornatus* (Rainbow & Pulleine) ('allotype, nec paratye, *Albaniana flavomaculata* Rainbow & Pulleine), ventral aspect of tarsus, metatarsus, tibia; *105*, *A. ornatus* (Rainbow & Pulleine) (holotype, *Bancroftiana speciosa* Rainbow & Pulleine), ventral aspect of apical area of tibia I; *106*, *107*, *A. variabilis* (Rainbow & Pulleine) ('allotype', nec paratype, *Tambouriniana variabilis* Rainbow & Pulleine): *106*, ventral aspect of tarsus, metatarsus and tibia; *107*, prolateral aspect of tarsus I. *108–111*, *Arbanitis annulipes* (C. L. Koch) female (holotype, *Arbanitis maculipes* Hogg): *108*, dorsal view of carapace; *109*, profile of caput and eyes; *110*, sternal area; *111*, ventral aspect of tarsus and tibia of right palp. Scale bars: *104*, *106*, *107*, *108*, 1.0 mm; others not to scale.



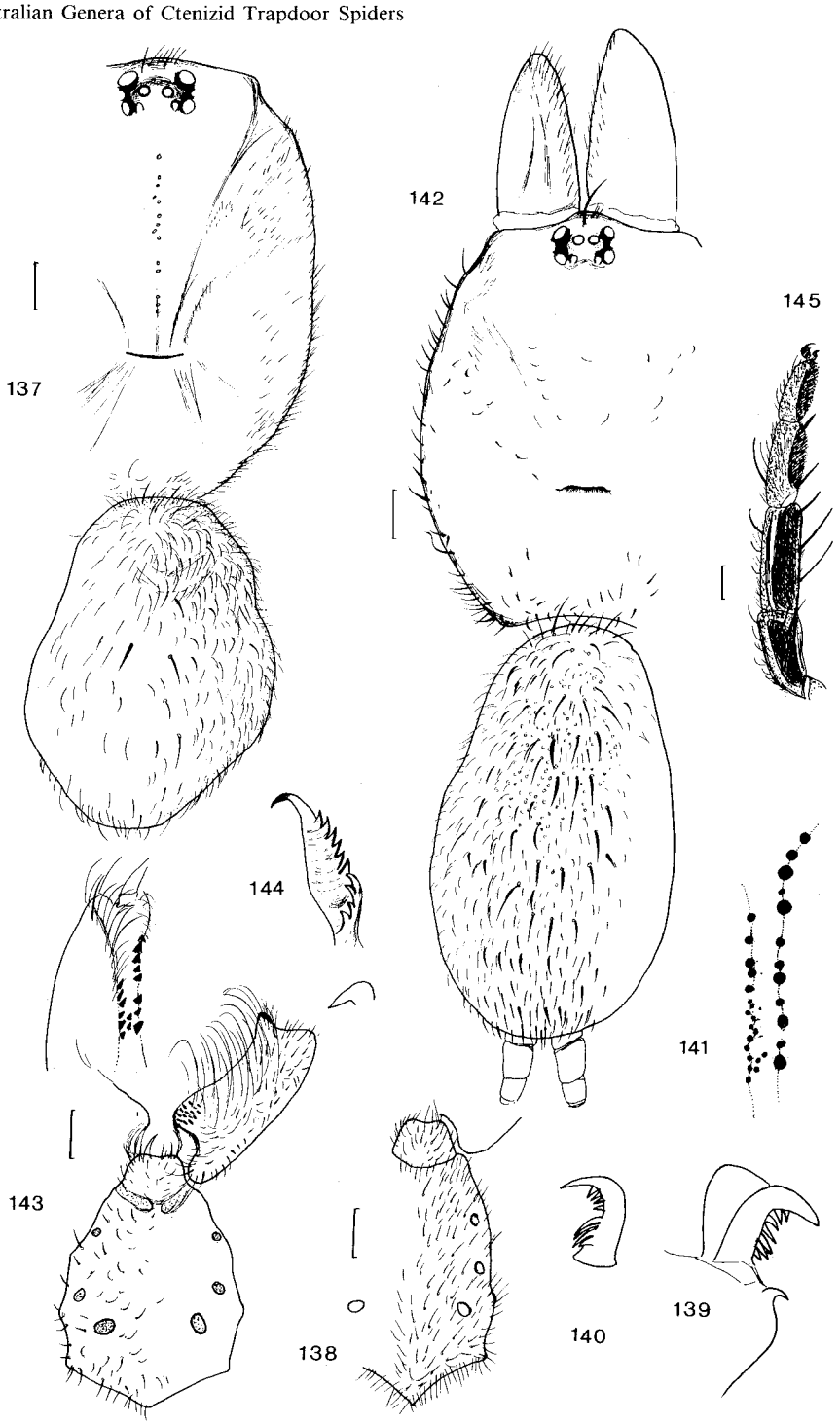

**Figs 112–122.** *Misgolas* Karsch, females. *112–114*, *M. rapax* Karsch, holotype: *112*, carapace (partly reconstructed); *113*, eyes, enlarged; *114*, rastellum of left chelicera. *115–119*, *M. rapax*: *115*, carapace (BYM 1954/482); *116–119*, holotype, *Arbanitis fuscipes* Rainbow: *116*, profile of carapace; *117*, fovea; *118*, eyes; *119*, sternal area. *120–122*, *Misgolas crispus* (Karsch) (holotype, *Hermeas crispus* Karsch): *120*, carapace (partly reconstructed); *121*, eyes, enlarged; *122*, prolateral aspect of right patella and tibia. Scale bars: *112*, *115*, *116*, *118*, *119*, *120*, 1 mm; others not to scale.



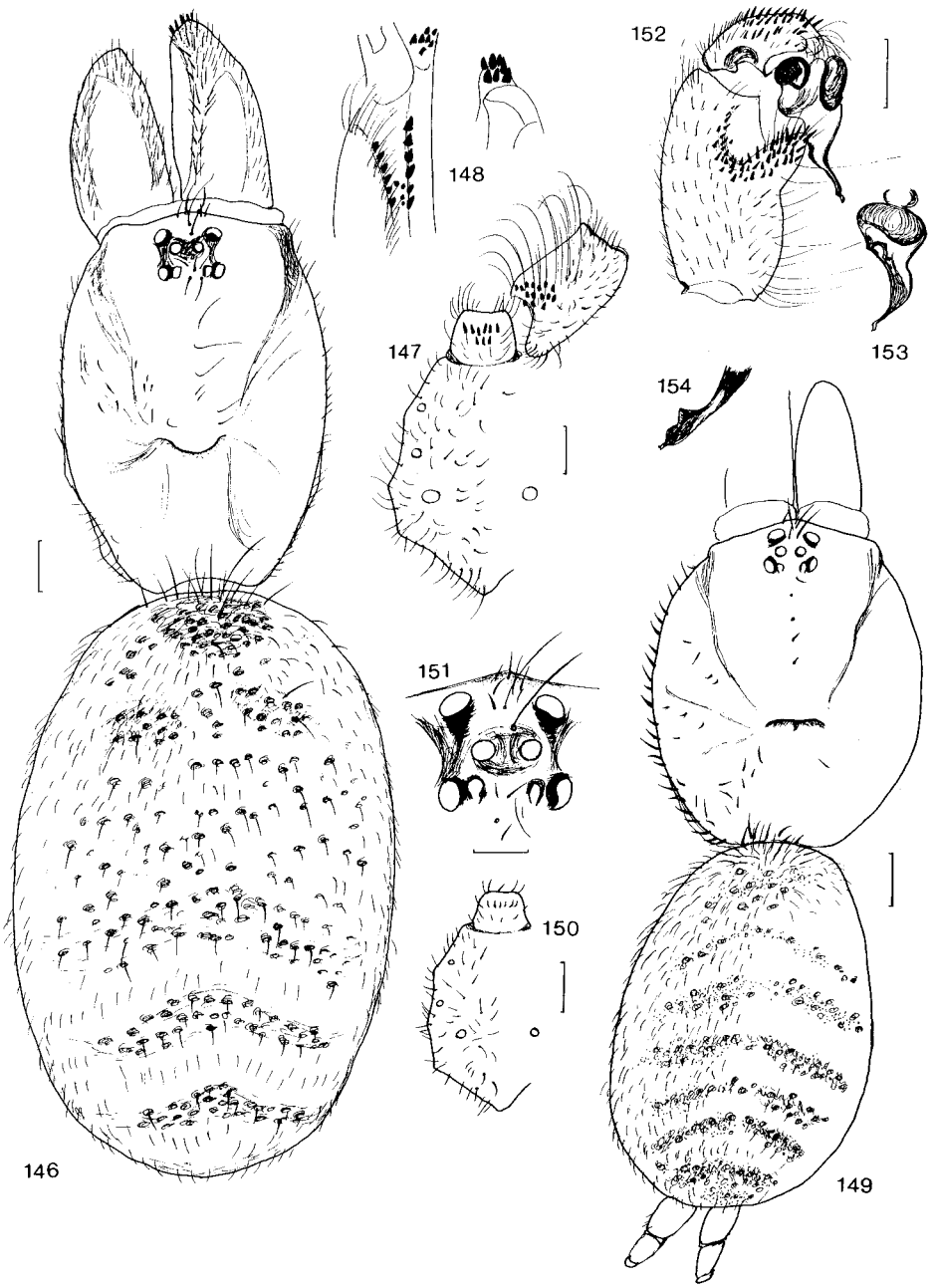

**Figs 123–130.** *Misgolas* Karsch. *123–126*, *M. andrewsi* (Hogg): *123–125*, female from Mt Compass (BYM 1954/543): *123*, carapace and right chelicera; *124*, sternal area and left maxilla; *125*, ventral view of teeth of groove of left chelicera; *126*, lectotype ♀, *Dyarcyops andrewsi* Hogg, eyes. *127–130*, *M. rapax* Karsch: *127–129*, female from Chatswood (BYM 1954/482): *127*, ventral aspect of tarsus and tibia of right palp; *128*, *129*, tarsus, metatarsus and tibia of right legs I and II, respectively; *130*, male from Gordon (AM 68948), ventral aspect of tarsus, metatarsus and tibia of right leg I. Scale bars: *123*, *124*, *127–130*, 1 mm; *125*, *126*, not to scale.



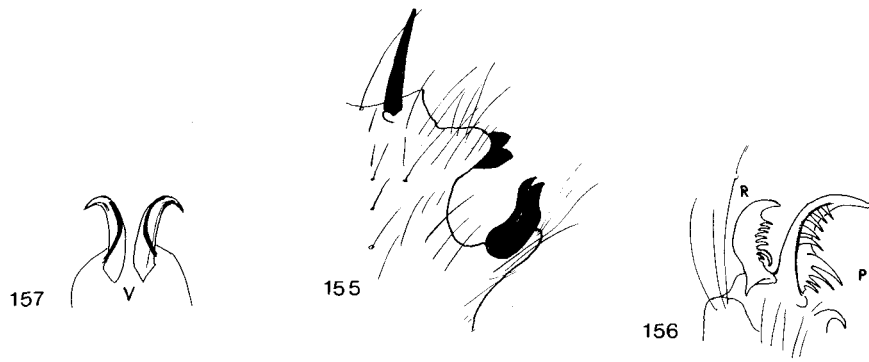

**Figs 131–136.** *Misgolas* Karsch males. *131–134*, *Misgolas rapax* Karsch (holotype, *Megalosara villosa* Rainbow); *131*, retrolateral view of right palp, tarsus and tibia; *132*, enlarged view of tarsus and apical area of tibia; *133*, embolus tip, enlarged; *134*, retrolateral view of apical area of right tibia I. *135–136*, *M. andrewsi* (Hogg) ('allotype' nec paratype *Dyarcyops andrewsi* Hogg) (BYM 1974/2): *135*, retrolateral view of tarsus and tibia of right palp; *136*, embolus, enlarged. Scale bars: *131*, *135*, 1 mm; others not to scale.



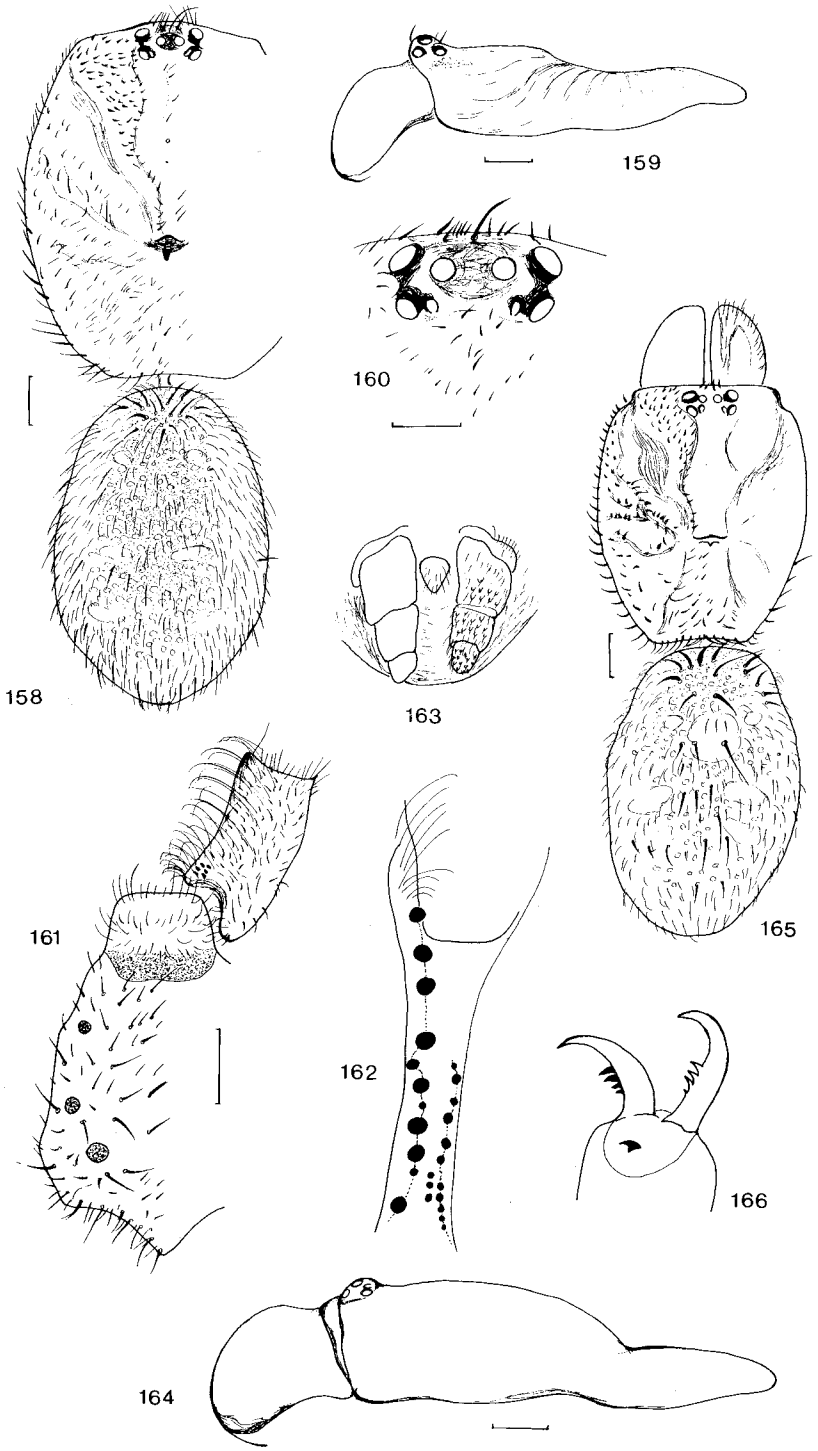

**Figs 137–145.** *Misgolas* Karsch: *137–144* males, *145* female. *137–141*, *M. rapax* Karsch (holotype, *Megalosara villosa* Rainbow): *137*, dorsal view of carapace and abdomen; *138*, sternal area; *139*, *140*, tarsal claws of right leg I; *139*, retrolateral aspect of retroclaw; *140*, prolateral aspect of proclaw; *141*, cheliceral teeth (right paturon). *142–144*, *M. andrewsi* (Hogg) ('allotype' nec paratype *Dyarcyops andrewsi* Hogg) (BYM 1974/2): *142*, dorsal view of carapace, chelicerae and abdomen; *143*, sternal area, left maxilla and right chelicera; *144*, ventral view of retroclaw of right leg I. *145*, *Misgolas* sp. (BYM 65/378), 'decorations', i.e. longitudinal marks on leg I. Scale bars: *137*, *138*, *142*, *143*, *145*, 1 mm; others not to scale.



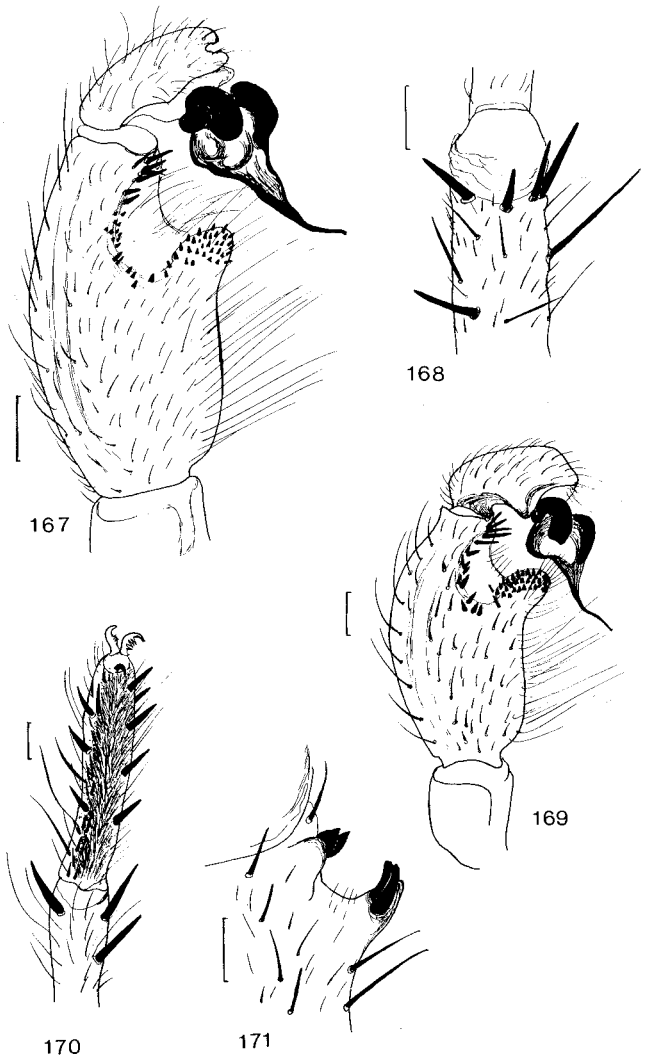

**Figs 146–154.** *Blakistonia aurea* Hogg. *146–148*, Female (BYM 1955/612) from Clare, SA: *146*, dorsal aspect of carapace, chelicerae and abdomen; *147*, sternal area and left maxilla; *148*, ventral aspect of chelicerae, paturon groove teeth. *149–154*, male (BYM 1978/14) from Torrens Gorge, Adelaide, SA: *149*, dorsal aspect of carapace and abdomen; *150*, sternal area; *151*, eyes; *152*, retrolateral aspect of right palp with bulb twisted into prolateral view; *153*, retrolateral aspect of bulb and embolus 'exploded'; *154*, embolus tip, enlarged. Scale bars: *146*, *147*, *149*, *150*, *152*, *153*, 1 mm; *151*, 0·5 mm; *148*, *154*, not to scale.



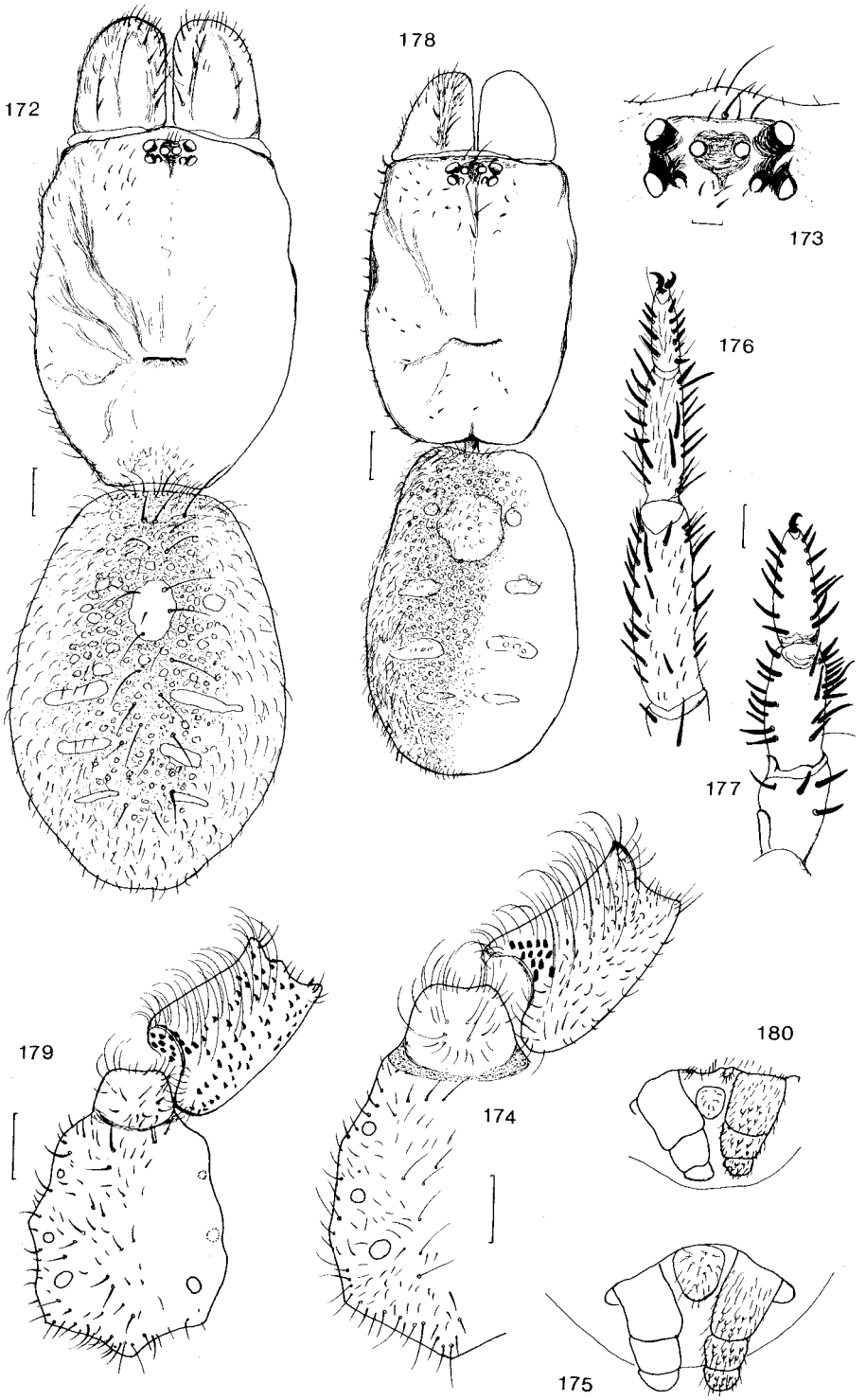

**Figs 155–157.** *Blakistonia aurea* Hogg, male (BYM 1978/14). *155*, Retrolateral apical aspect of tibia I of right leg; *156*, *157*, tarsal claws of right leg I: *156*, retrolateral aspect of retroclaw (R) and proclaw (P) (left and right of figure, respectively); *157*, schematic alignment of ventral aspect of teeth. Not to scale.



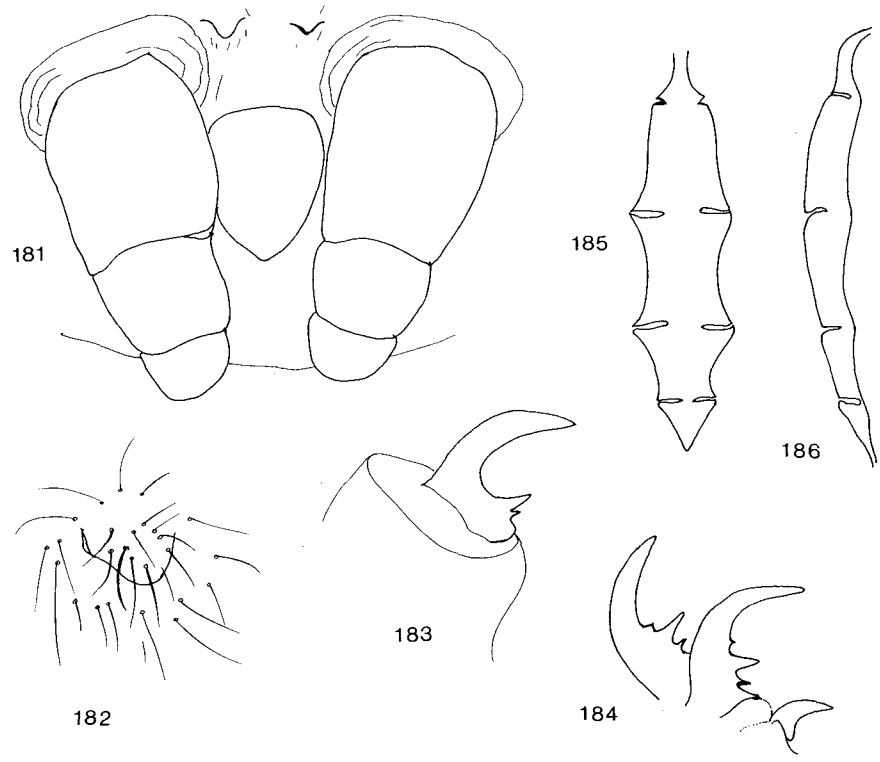

**Figs 158–166.** *Neohomogona*, gen. nov. *158–163*, *165–166*, Male holotypes; *164*, female. *158–164*, *N. bolganupensis*, sp. nov.: *158*, dorsal view of carapace and abdomen; *159*, profile of carapace; *160*, eyes; *161*, sternal area and maxilla; *162*, left cheliceral teeth; *163*, spinnerets; *164*, profile of carapace (BYM 1955/790). *165–166*, *N. stirlingi*, sp. nov.: *165*, dorsal view of carapace and abdomen; *166*, tarsal claws of right leg I. Scale bars: *158–159*, *161*, *164*, *165*, 1.0 mm; *160*, 0.5 mm; *162–163*, *166*, not to scale.




**Figs 167–171.** *Neohomogona*, gen. nov., male holotypes. *167–168*, *N. stirlingi*: *167*, retrolateral aspect of right palp; *168*, ventral aspect of apical area of tibia of right leg I. *169–171*, *N. bolganupensis*: *169*, retrolateral aspect of right palp; *170*, ventral aspect of tarsus of right leg I; *171*, prolateroventral view of apical area of tibia of first leg. Scale bars: 0.5 mm.




**Figs 172–180.** *Neohomogona*, nov. gen., females. *172–177*, *N. bolganupensis*, allotype: *172*, dorsal view of carapace and abdomen; *173*, eyes; *174*, sternal area; *175*, spinnerets; *176*, *177*, ventral aspect of right first leg and palp, showing spination. *178–180*, *N. stirlingi*, allotype: *178*, dorsal aspect of carapace and abdomen; *179*, sternal area; *180*, spinnerets. Scale bars: *172*, *174*, *176–179*, 1.0 mm; *173*, 0.25 mm; *175*, *180*, not to scale.




**Figs 181–186.** *Neohomogona bolganupensis*, sp. nov., females. *181–182*, Spinnerets [BYM 1957/184 (WAM 83/544)]: *182*, right median spinneret, greatly enlarged. *183*, *184*, prolateral view of tarsal claws of left palp and left leg I, respectively [BYM 1955/790 (WAM 83/536)]; *185*, *186*, dorsal and lateral views, respectively, of heart [BYM 57/83 (WAM 83/540)]. Not to same scale.

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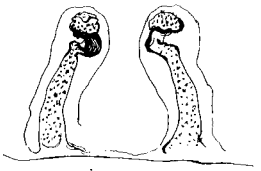
**Figs 187–208.** Internal genitalia of females. *187*, *Conothele* sp. from 8.8 km N. of Jilakin Rock, WA (BYM 54/45). *188–189*, *Aganippe subtristis* Cambridge: *188*, specimen from Mt Remarkable, SA (BYM 52/405); *189*, specimen from Pichi Richi, SA (BYM 52/427). *190*, *Idiosoma sigillatum* (Cambridge) from Nedlands, WA (BYM 60/46). *191*, *Eucyrtops latior* (Cambridge) from 19 km W. of Quindanning, WA (BYM 52/77). *192–193*, *Anidiops*: *192*, *Anidiops manstridgei* Pocock from 9.6 km W. of Lawlers, WA (BYM 54/401); *193*, *A. villosus* (Rainbow) from Minnivale, WA (BYM 54/271). *194–196*, *Cataxia*: *194*, *Cataxia maculata* Rainbow from Eidsvold (BYM 65/146) (QM); *195*, *C. eungellaensis* Main from Eungella National Park, Q (BYM 65/470); *196*, *Cataxia dietrichae*, sp. nov. from 9.6 km W. of Bowen, Q (BYM 1965/481; QM S 1393). *197–200*, *Arbanitis*: *197*, *A. inornatus* (Rainbow & Pulleine) from 6.5 km E. of Byford, tributary of Wungong R., WA (BYM 59/66); *198*, *A. ornatus* (Rainbow & Pulleine) from 51.5 km W. of Eidsvold off Cracow Rd (Bancroft's), Q (BYM 65/160); *199*, *A. spinnipes* (Rainbow) from Eidsvold, Q (BYM 65/127); *200*, *A. variabilis* (Rainbow) (holotype, *Tambouriniana variabilis* Rainbow & Pulleine). *201–202*, *Misgolas*: *201*, *M. rapax* Karsch from Chatswood, NSW (BYM 54/482); *202*, *M. andrewsi* (Hogg) from Mt Compass, SA (BYM 54/543). *203–204*, *Blakistonia aurea* Hogg: *203*, from Mt Lofty, SA (BYM 54/558); *204*, from 16 km N. of Clare, SA (BYM 55/612). *205–207*, *Neohomogona*, gen. nov.: *205*, *N. bolganupensis*, sp. nov. [paratype, BYM 55/802 (WAM 83/537)]; *206*, *N. stirlingi*, sp. nov. [paratype, BYM 54/163 (WAM 83/547)]; *207*, *N. stirlingi* from Mt Hassell, Stirling Ranges, WA (BYM 53/180). *208*, *Homogona pulleinei* Rainbow [BYM 54/496 (AM KS6828)]. Scale bars: 1·0 mm.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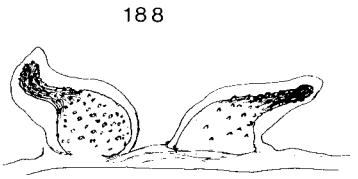
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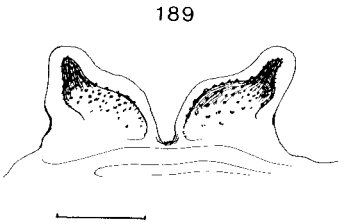
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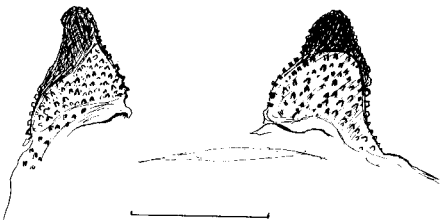
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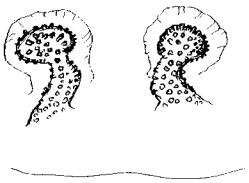
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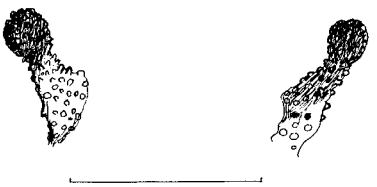
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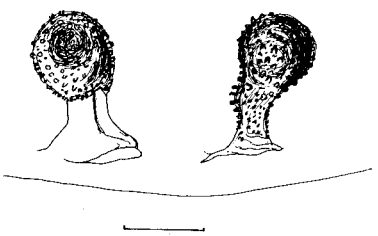
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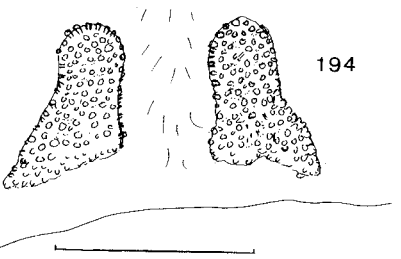
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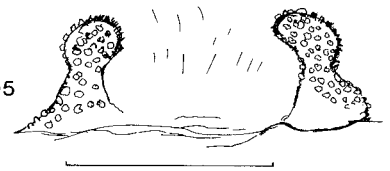
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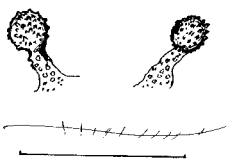
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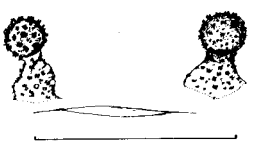
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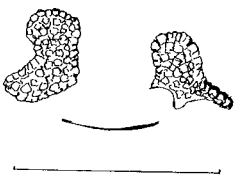
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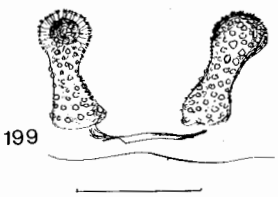

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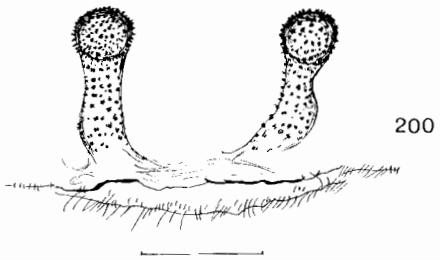

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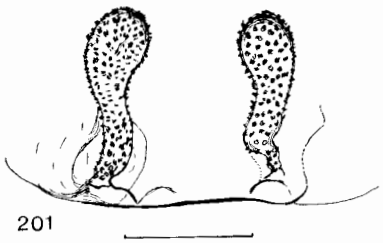

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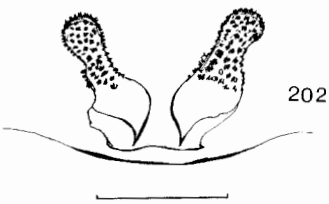

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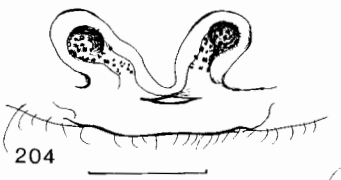

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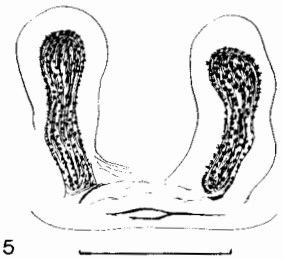

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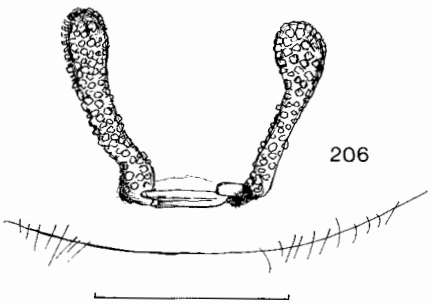

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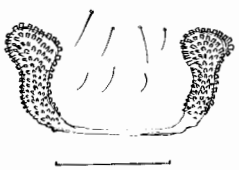

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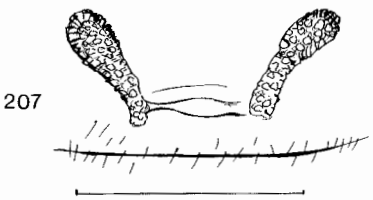

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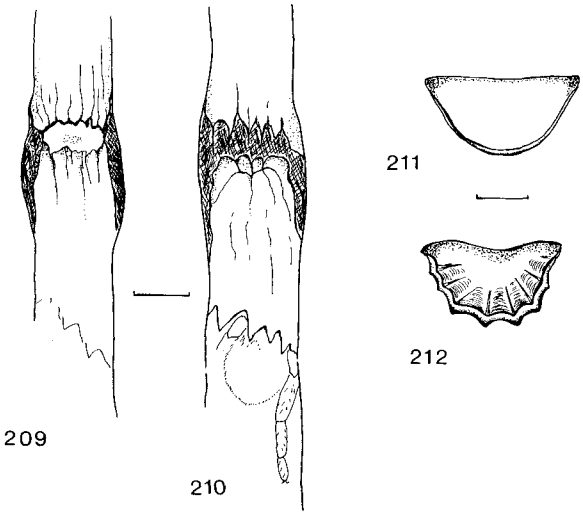
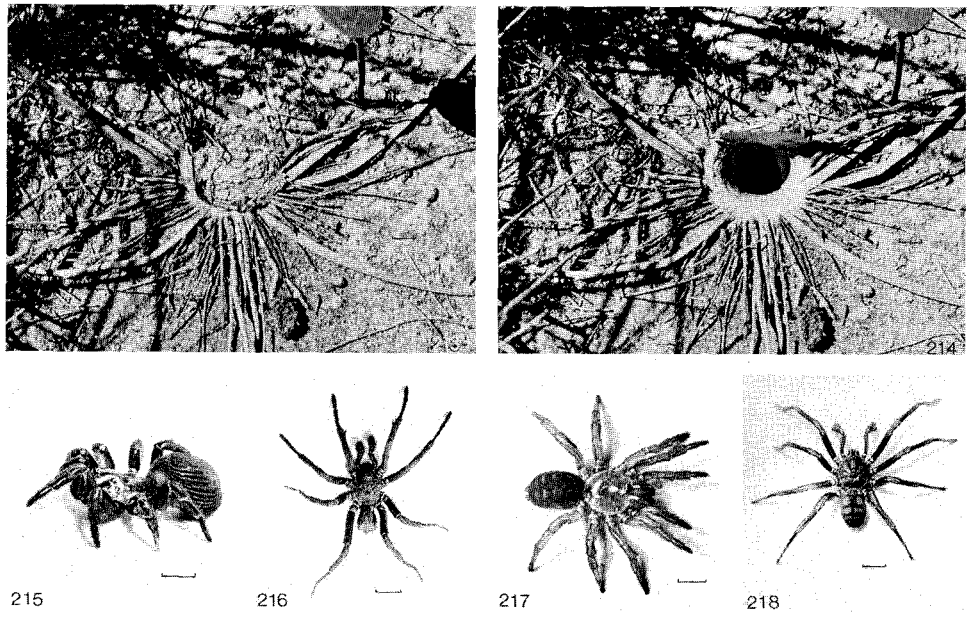
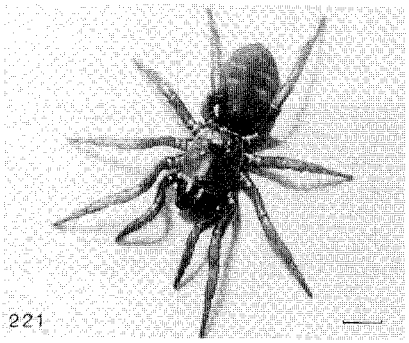
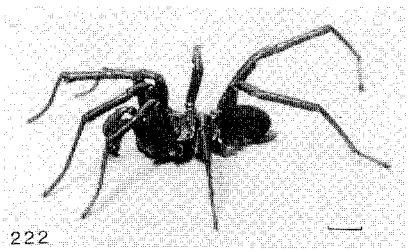



**Figs 209–212.** *209, 210,* 'Sock' in burrow of *Anidiops villosus* (Rainbow): *209,* open sock, top attached to burrow lining; *210,* sock inverted, i.e. pulled down with attachment threads broken. *211, 212,* Doors of burrow of *Blakistonia aurea* Hogg, showing long hinge-line and smooth and crenulated margins. Scale bars: 1 cm.




**Figs 213–218.** *213*, *214*. Entrance to nest of *Anidiops villosus* (Rainbow), showing attached twig-lines, at N. Bungulla, WA fauna sanctuary: *213*, door closed; *214*, door propped open. *215*, *Idiosoma nigrum* Main female. *216*, *Idiosoma sigillatum* (Cambridge) male (BYM 59/199) from Rottnest Island, WA. *217*, *Arbanitis inornatus* (Rainbow & Pulleine) female (BYM 56/254) from King's Park, Perth, WA. *218*, *Arbanitis inornatus* (Rainbow & Pulleine) male (BYM 57/123) from near Bullsbrook, 4.8 km along Chittering Valley Road, WA. Scale bars: *213*, *214*, 1 cm; *215–218*, 5 mm.



**Figs. 219–222.** *219*, *Neohomogona stirlingi*, sp. nov., palisade entrance to burrow. *220–222*, *Neohomogona bolganupensis*, sp. nov.: *220*, spider in foraging position at entrance; *221*, female spider, paratype (BYM 56/86); *222*, male spider, holotype. Scale bars: *219, 220*, 1 cm; *221, 222*, 5 mm.